```
          115                    120                    125
Leu Thr Asn Ala Ala Lys Gly Met Ile Asn Glu Lys Ile Lys Trp Asn
          130                    135                    140
Phe Thr Lys Phe Leu Ile Asp Arg Glu Gly Asn Val Ile Lys Arg Phe
145                    150                    155                    160
Ser Pro Gln Lys Lys Pro Glu Gln Ile Lys Thr Glu Ile Glu Lys Leu
                    165                    170                    175
Leu
```

<210> 4239
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4239
```
Ile Thr Tyr Asn Gly Ile Cys Ile Ser Tyr Ser Ser His Val Thr Tyr
1               5                    10                    15
Leu Leu Leu Asn Gln Asn Arg Val Ile Val Asn Phe Leu Leu Arg Met
                    20                    25                    30
Gly Phe Glu Leu Met Lys Arg Val Leu Lys Phe Asn Leu Leu Thr
          35                    40                    45
```

<210> 4240
<211> 85
<212> PRT
<213> S.epidermidis

<400> 4240
```
Ala Lys Asn Lys Thr Thr Ser Asn Thr Ile Ile Glu Val Arg Val Asn
1               5                    10                    15
Asn Asp Leu Tyr Leu Ile Asn Ile Asn Asn Thr Met Ile Lys Ile Asn
                    20                    25                    30
Ala Thr Asn Ile His Phe Thr Asp Leu Ser Asp Ser Ala Ile Asn Met
          35                    40                    45
Lys Pro Tyr Met Asn Thr Gly Ile Ala Thr Lys Val Tyr Ser Leu Ile
     50                    55                    60
Asp Ile Ser Leu Lys Cys Cys Met Asn Asn Ala Ile Asn Thr Leu Val
65                    70                    75                    80
Asp Asn Ala Lys Lys
                85
```

<210> 4241
<211> 328
<212> PRT
<213> S.epidermidis

<400> 4241
```
Arg Arg Asn Asn Ile Met Lys Val Ile Glu Val Thr His Pro Ile Gln
1               5                    10                    15
Ser Asn Gln Phe Ile Thr Glu Asn Val Ala Met Ala Phe Gly Phe Phe
                    20                    25                    30
Asp Gly Met His Arg Gly His Asp Lys Val Phe Gln Val Leu Asp Glu
          35                    40                    45
Lys Ala Lys Glu His Gln Leu Lys Lys Ala Val Met Thr Phe Asp Pro
     50                    55                    60
```

```
His Pro Ser Val Val Leu Asn Pro Glu Arg Lys Arg Thr Thr Tyr Leu
65                  70                  75                  80
Thr Pro Leu Ser Asp Lys Leu Glu Met Ile Ala Glu His Gly Ile Asp
                85                  90                  95
Tyr Cys Ile Val Ile Asn Phe Ser Ser Arg Phe Ala Asn Val Thr Ser
            100                 105                 110
Asp Asp Phe Ile Lys Asn Tyr Ile Ile Asn Asn His Val Lys Glu Val
        115                 120                 125
Ile Ala Gly Phe Asp Phe Thr Phe Gly Lys Phe Gly Lys Gly Asn Met
    130                 135                 140
Thr Val Leu Gln Glu Ser Lys Ala Phe Asn Thr Thr Ile Val Gly Lys
145                 150                 155                 160
Gln Glu Met Asp Ser Glu Lys Ile Ser Thr Thr Ala Ile Arg Gln Ala
                165                 170                 175
Leu Thr Asp Gly His Leu Gln Lys Ala Asn Asp Glu Leu Gly Tyr Ile
            180                 185                 190
Tyr Arg Ile Lys Gly Thr Val Val Gln Gly Glu Lys Arg Gly Arg Thr
        195                 200                 205
Ile Gly Phe Pro Thr Ala Asn Val Gln Pro Ser Asp Asp Tyr Val Leu
    210                 215                 220
Pro Lys Lys Gly Val Tyr Ala Val Ser Met Glu Ile Gly Pro Glu Ser
225                 230                 235                 240
Lys Leu His Arg Gly Val Ala Asn Val Gly Val Lys Pro Thr Phe His
                245                 250                 255
Asp Pro Thr Arg Ala Glu Leu Val Ile Glu Val Asn Ile Phe Asp Phe
            260                 265                 270
Asn Glu Asn Ile Tyr Gly Glu Arg Val Thr Val Tyr Trp His His Phe
        275                 280                 285
Leu Arg Pro Glu Val Lys Phe Asp Gly Ile Asp Pro Leu Val Lys Gln
    290                 295                 300
Met Asn Glu Asp Lys Ala Gln Ala Lys His Leu Leu Ser Ile Asp Phe
305                 310                 315                 320
Asp Asp Asp Ile Ser Tyr Asn Ile
                325
```

```
<210> 4242
<211> 181
<212> PRT
<213> S.epidermidis
```

```
<400> 4242
Phe Met Asp Asn Ser Leu His Ala Thr Thr Ile Tyr Ala Val Arg His
1               5                   10                  15
Asn Gly Glu Ala Ala Met Ala Gly Asp Gly Gln Val Thr Leu Gly Gln
            20                  25                  30
Gln Val Ile Met Lys Gln Thr Ala Arg Lys Val Arg Arg Leu Tyr Glu
        35                  40                  45
Gly Lys Val Leu Ala Gly Phe Ala Gly Ser Val Ala Asp Ala Phe Thr
    50                  55                  60
Leu Phe Glu Lys Phe Glu Thr Lys Leu Gln Gln Phe Ser Gly Asn Leu
65                  70                  75                  80
Glu Arg Ala Ala Val Glu Leu Ala Gln Glu Trp Arg Gly Asp Lys Gln
                85                  90                  95
Leu Arg Gln Leu Glu Ala Met Leu Ile Val Met Asn Lys Asp Ala Ile
            100                 105                 110
Leu Ile Val Ser Gly Thr Gly Glu Val Ile Ala Pro Asp Asp Asp Leu
```

```
         115                    120                    125
Ile Ala Ile Gly Ser Gly Gly Asn Tyr Ala Leu Ser Ala Gly Arg Ala
         130                    135                    140
Leu Lys Arg His Ala Ala Gln Leu Ser Ala Ser Glu Met Ala Tyr Glu
145                    150                    155                    160
Ser Leu Lys Val Ala Ala Asp Ile Cys Val Phe Thr Asn Asp Asn Ile
                  165                    170                    175
Ile Val Glu Thr Leu
                  180
```

<210> 4243
<211> 388
<212> PRT
<213> S.epidermidis

<400> 4243
```
Gly Met Asp Asn Phe Met Asn Glu Leu Glu Phe Val Thr Leu His Arg
1                   5                    10                    15
Arg His Leu His Gln Tyr Pro Glu Leu Ser Leu His Glu Phe Glu Thr
                  20                    25                    30
Thr Ser Tyr Ile Thr Ser Phe Leu Glu Asp Leu Gly Val Pro Tyr Asp
                  35                    40                    45
Arg Pro Leu Lys Thr Gly Val Ile Ala Tyr Leu Glu Gly Asn Ser His
         50                    55                    60
His Thr Ile Ala Phe Arg Ala Asp Ile Asp Ala Leu Pro Ile Tyr Glu
65                    70                    75                    80
Glu Asn Asp Ile Asp Phe Lys Ser Lys Asn Asp Asn Val Met His Ala
                  85                    90                    95
Cys Gly His Asp Gly His Thr Thr Ala Leu Met Leu Phe Val Lys Arg
                  100                    105                    110
Cys Lys Ala Leu Tyr Asp Lys Ser Glu Leu Pro His Asn Val Val Phe
         115                    120                    125
Ile Phe Gln Pro Ala Glu Glu Thr Gly Gly Gly Ala Asn Arg Leu Ile
         130                    135                    140
Lys Ala Gly Ala Phe Asp Lys Tyr Pro Ile Glu Ala Val Phe Gly Phe
145                    150                    155                    160
His Val Asn Pro Phe Glu Lys Glu Gly Lys Ile Val Ile Arg Asp Glu
                  165                    170                    175
Glu Ile Thr Ala Ser Ala Thr Glu Tyr Arg Phe Phe Leu Lys Gly Leu
                  180                    185                    190
Ser Ser His Val Ala Asp Lys Glu Gln Gly His Ser Cys Gly Glu Gly
         195                    200                    205
Leu Gln His Val Leu Ser Gln Ile Gly Gln Ile Gln Gln Phe His Leu
         210                    215                    220
Asn Gly Leu Lys Arg Asn Ile Ile His Met Gly His Phe Glu Ala Gly
225                    230                    235                    240
Glu Ala Ile Asn Thr Val Pro Ser His Gly Tyr Leu Glu Gly Thr Ile
                  245                    250                    255
Arg Thr Tyr Asp Thr Glu Asp Leu Ala Ile Val Lys His Gln Met His
                  260                    265                    270
Lys Ile Ala Lys Ser Val Gln Leu Leu Phe Asn Val Glu Cys Glu Val
                  275                    280                    285
Lys Phe Glu Glu Gly Tyr Pro Pro Thr Met Asn His Pro Gln Leu Arg
         290                    295                    300
Gln Ala Val Glu Asn Ala Ile Lys Gly Ala Asn Leu Glu Ile Val Glu
305                    310                    315                    320
```

```
Lys Lys Leu Pro Phe Leu Phe Gly Glu Asp Phe Ser Phe Tyr Gly Gln
            325                 330                 335
Gln Leu Ala Pro Ser Tyr Phe Val Phe Val Gly Thr Gln Asn Asn Glu
            340                 345                 350
Lys Gly Phe Val Thr Gly Leu His Thr Ala His Leu Asn Phe Asp Glu
            355                 360                 365
Lys Ile Leu Ile Asp Val Val Asn Tyr Tyr Glu His Leu Leu Arg Asn
    370                 375                 380
Tyr Lys Glu Val
385


<210> 4244
<211> 428
<212> PRT
<213> S.epidermidis


<400> 4244
Cys Phe Cys Lys Gly Gly Ser Val Met Tyr Asp Tyr Asn Leu Leu Glu
1               5                   10                  15
Asp Arg Asp Val Leu Cys Ile Asp Gln Lys Ser Phe Phe Ala Ser Val
            20                  25                  30
Ser Cys Met Glu Lys Gly Leu Asp Pro Leu Thr Thr Lys Leu Ala Val
            35                  40                  45
Val Ala Asp Thr Lys Arg Gln Gly Ser Val Val Leu Ala Ala Thr Pro
    50                  55                  60
Lys Leu Lys Glu Leu Gly Ile Lys Thr Gly Ser Arg Leu Phe Glu Ile
65                  70                  75                  80
Pro His Arg Asn Asp Ile Tyr Ile Ile Asn Pro Ser Met Arg Lys Tyr
            85                  90                  95
Leu Asn Val Ser Val Ala Ile Ser Lys Ile Ala Leu Arg Tyr Val Pro
            100                 105                 110
Pro Glu Asp Leu His Gln Tyr Ser Ile Asp Glu Phe Phe Met Asp Val
            115                 120                 125
Thr Asp Ser Tyr His Arg Phe Asn Ser Thr Val Phe Ala Phe Cys Lys
    130                 135                 140
Arg Phe Gln Asn Glu Ile Leu Glu Glu Thr Gly Ile His Cys Thr Ile
145                 150                 155                 160
Gly Ile Gly Ser Asn Met Leu Leu Ser Lys Val Ala Met Asp Ile Glu
            165                 170                 175
Ala Lys His Ser Glu Asn Gly Ile Ala Glu Trp Arg Tyr Gln Asp Val
            180                 185                 190
Pro Glu Lys Leu Trp Pro Ile Gln Pro Leu Arg Asp Phe Trp Gly Ile
            195                 200                 205
Asn Lys Arg Thr Glu Lys Lys Leu Asn Lys Arg Gly Ile Phe Thr Ile
    210                 215                 220
Gly Asp Leu Ala Lys Tyr Pro Tyr His Tyr Leu Lys Arg Asp Phe Gly
225                 230                 235                 240
Val Leu Gly Ile Asp Met His Leu His Ala Asn Gly Ile Asp Gln Ser
            245                 250                 255
Lys Val Arg Glu Lys Tyr Lys Val Thr Asn Pro Ser Ile Cys Lys Ser
            260                 265                 270
Gln Ile Leu Met Arg Asp Tyr Gln Phe Glu Glu Ser Lys Val Val Met
    275                 280                 285
Gln Glu Leu Ile Glu Asp Val Ala Ser Arg Leu Arg Ala Glu Lys Lys
    290                 295                 300
Leu Ala Arg Thr Ile His Phe Ser Phe Gly Tyr Ala Glu Gly Gly Gly
```

```
305                 310                 315                 320
Ile His Lys Gln Tyr Thr Leu Glu Asp Pro Thr Asn Leu Glu Arg Asp
                325                 330                 335
Ile Phe Lys Val Ile Asn Tyr Phe Ala Asn Arg Leu Cys Asp Lys Lys
                340                 345                 350
Ala Leu Tyr Arg Thr Leu Ser Val Ser Leu Thr Gln Phe Ile Lys Glu
                355                 360                 365
Ser Asp Arg Gln Leu Asn Leu Phe Ile Asp Glu Tyr Glu Arg Lys Lys
                370                 375                 380
Asp Val Lys Leu Ala Lys Thr Ile Asp His Leu His Leu Lys Tyr Gly
385                 390                 395                 400
Lys Gly Ile Val Ser Lys Ala Thr Ser Tyr Thr Glu Ala Gly Thr Lys
                405                 410                 415
His Gly Arg Leu Gly Leu Met Ala Gly His Lys Met
                420                 425
```

```
<210> 4245
<211> 333
<212> PRT
<213> S.epidermidis

<400> 4245
Phe Tyr Cys Lys Gly Leu Lys Lys Met Lys Ile Phe Asp Tyr Glu Asp
1                   5                   10                  15
Ile Gln Leu Ile Pro Asn Lys Cys Ile Val Glu Ser Arg Ser Glu Cys
                20                  25                  30
Asn Thr Ser Val Lys Phe Gly Pro Arg Thr Phe Lys Leu Pro Val Val
                35                  40                  45
Pro Ala Asn Met Gln Thr Val Met Asn Glu Glu Leu Ala Gln Trp Phe
        50                  55                  60
Ala Glu Asn Asp Tyr Phe Tyr Ile Met His Arg Phe Asn Glu Glu Asn
65                  70                  75                  80
Arg Ile Pro Phe Ile Lys Lys Met His His Ala Gly Leu Phe Ala Ser
                85                  90                  95
Ile Ser Val Gly Val Lys Glu Asn Glu Phe Asn Phe Ile Glu Lys Leu
                100                 105                 110
Ala Ser Ser Ser Leu Ile Pro Glu Tyr Ile Thr Ile Asp Ile Ala His
        115                 120                 125
Gly His Ser Asn Ser Val Ile Asn Met Ile Lys His Ile Lys Lys His
        130                 135                 140
Leu Pro Asn Ser Phe Val Ile Ala Gly Asn Val Gly Thr Pro Glu Gly
145                 150                 155                 160
Val Arg Glu Leu Glu Asn Ala Gly Ala Asp Ala Thr Lys Val Gly Ile
                165                 170                 175
Gly Pro Gly Arg Val Cys Ile Thr Lys Ile Lys Thr Gly Phe Gly Thr
                180                 185                 190
Gly Gly Trp Gln Leu Ser Ala Leu Asn Leu Cys Asn Lys Ala Ala Arg
                195                 200                 205
Lys Pro Ile Ile Ala Asp Gly Gly Leu Arg Thr His Gly Asp Ile Ala
        210                 215                 220
Lys Ser Ile Arg Phe Gly Ala Thr Met Val Met Ile Gly Ser Leu Phe
225                 230                 235                 240
Ala Ala His Glu Glu Ser Pro Gly Glu Thr Val Glu Leu Asp Gly Lys
                245                 250                 255
Lys Tyr Lys Glu Tyr Phe Gly Ser Ala Ser Glu Tyr Gln Lys Gly Glu
                260                 265                 270
```

His Lys Asn Val Glu Gly Lys Lys Met Phe Val Glu His Lys Gly Ser
        275   280   285
Leu Lys Asp Thr Leu Thr Glu Met Glu Gln Asp Leu Gln Ser Ser Ile
        290   295   300
Ser Tyr Ala Gly Gly Lys Asp Leu Lys Ser Leu Arg Thr Val Asp Tyr
305   310   315   320
Val Ile Val Arg Asn Ser Ile Phe Asn Gly Asp Arg Asp
                325   330

<210> 4246
<211> 151
<212> PRT
<213> S.epidermidis

<400> 4246
Arg Val Gly Asn Ile Met Phe Lys Phe Asn Phe Phe Tyr Ile Ser Lys
1   5   10   15
Ile Arg Ala Thr Trp Met Leu Tyr Leu Ile Gly Ile Tyr Pro Leu Leu
        20   25   30
Ile Phe Leu Ala Glu Leu Leu Asn Ser Asn Phe Leu Ser Leu Ser Ala
        35   40   45
Thr His Lys Asn Ser Val Ser Phe Leu Glu Leu Phe Ile Ala Ile Tyr
        50   55   60
Asp Thr Gln Gln Lys Val Met Leu Ser Leu Ile Ile Ile Gly Tyr Leu
65   70   75   80
Ser Ser Leu Leu Phe Tyr Ser Glu Ile Ser Thr Gly Arg Leu Leu Phe
                85   90   95
Tyr Lys Asp Gln Ser Arg Tyr Lys Ile Phe Asn Ser Lys Leu Thr Ser
            100   105   110
Ile Ile Ser Ser Tyr Phe Ile Phe Leu Phe Ile Leu Leu Leu Ser Thr
        115   120   125
Leu Val Val Tyr Val Phe Tyr Val Asn Asn His Glu Tyr Ser Ser His
    130   135   140
Ser Phe Met Leu Asn Asn Ser
145   150

<210> 4247
<211> 171
<212> PRT
<213> S.epidermidis

<400> 4247
Met Asn Ile Asn Thr Ala Tyr Phe Ala Gly Gly Cys Phe Trp Cys Met
1   5   10   15
Thr Lys Pro Phe Asp Thr Phe Asp Gly Ile Glu Lys Val Thr Ser Gly
        20   25   30
Tyr Met Gly Gly Asn Leu Val Asn Pro Ser Tyr Glu Glu Val Lys Thr
        35   40   45
Gly Ser Thr Gly His Tyr Glu Val Val Lys Ile Glu Tyr Asp Val Ala
    50   55   60
Leu Phe Ser Tyr His Lys Leu Leu Glu Ile Phe Phe Ser Val Ile Asp
65   70   75   80
Pro Leu Asp Asp Gly Gly Gln Phe Gln Asp Arg Gly Ser Gln Tyr Lys
                85   90   95
Thr Ala Ile Phe Tyr Ser Asn Glu His Gln Arg Gln Leu Ala Glu Gln
            100   105   110

```
Tyr Ile Cys Glu Leu Gln Asp Ser Phe Asn Ala Asp Lys Ala Ile Ala
        115                 120          .         125
Thr Lys Ile Leu Pro Ala Ser Thr Phe Tyr Glu Ala Glu Ala Tyr His
    130                 135              140
Gln Asp Phe Tyr Lys Lys Asn Pro Glu Arg Tyr Glu Gln Glu Gln Gln
145                 150                 155                 160
Asp Arg Ala Ser Tyr Val Lys Asn Asn His Met
                165                 170
```

<210> 4248
<211> 125
<212> PRT
<213> S.epidermidis

<400> 4248
```
Ile Ile Thr Lys Val Glu Ala His Ile Ile Ile Leu Ile Ile Lys Val
1               5                   10                  15
Tyr Met Ser His Ser Leu Asn Thr Arg Asn Pro Pro Phe Pro Thr Asp
            20                  25                  30
Gly Asp Gly Tyr Glu Tyr Asn Tyr Arg Gln Asp Asp Asp Asn Tyr Phe
            35                  40                  45
Glu Gln Pro Gly Lys Leu Phe Arg Leu Gln Ser Glu Asp Ala Lys Glu
        50                  55                  60
Arg Ile Phe Thr Asn Thr Ala Asn Ala Met Asp Gly Val Ser Lys Asp
65                  70                  75                  80
Val Lys Val Arg His Ile Arg His Cys Tyr Lys Ala Asp Pro Glu Tyr
                85                  90                  95
Gly Lys Gly Val Ala Lys Ala Leu Gly Ile Asp Ile Asn Gln Ile Asp
            100                 105                 110
Leu Glu Thr Asn Gln Asp Glu Thr Tyr Glu Asn Phe Lys
        115                 120                 125
```

<210> 4249
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4249
```
Lys Arg Tyr Lys Lys Arg Asn Thr Ile Asn Lys Thr Ile Glu Leu Asp
1               5                   10                  15
Pro Ser Leu Ile Tyr Lys Leu Lys Ile Phe Val Val Ile Asp Asp Leu
            20                  25                  30
Leu Arg Asn Asn Leu Phe Leu Ile Asn Phe
        35                  40
```

<210> 4250
<211> 134
<212> PRT
<213> S.epidermidis

<400> 4250
```
Ile Asn Asn Lys Phe Lys Ser Arg Gly Glu Val Gln Val Met Ser Asn
1               5                   10                  15
Asp Ser Ile Arg Arg Asn Met Ala Val Phe Ser Met Ser Val Val Ser
            20                  25                  30
Lys Leu Thr Asp Leu Ser Pro Arg Gln Ile Arg Tyr Tyr Glu Thr His
```

```
                35                      40                      45
      Glu Leu Val Met Pro Glu Arg Thr Asp Gly Asn Lys Arg Leu Phe Ser
          50                      55                      60
      Met Asn Asp Leu Glu Arg Leu Leu Glu Ile Lys Ser Leu Ile Glu Lys
      65                      70                      75                      80
      Gly Phe Asn Ile Arg Gly Ile Lys Gln Ile Ile Phe Asp Glu Gln Gly
                      85                      90                      95
      His Leu Thr Thr Asp Glu Gln Glu Thr Arg Lys Arg Met Ile Val Asp
                      100                     105                     110
      Ala Thr Gln Lys Pro Arg Ser Glu Thr Leu Pro Ile Asn Arg Gly Asp
                      115                     120                     125
      Leu Ser Arg Phe Ile Lys
                      130
```

<210> 4251
<211> 309
<212> PRT
<213> S.epidermidis

<400> 4251
```
      Arg Cys Asp Asn Met Tyr Asn Gly Ile Leu Pro Val Phe Lys Lys Arg
      1                   5                       10                      15
      Gly Leu Thr Ser His Asp Val Val Phe Lys Leu Arg Lys Ile Leu Lys
                      20                      25                      30
      Met Lys Lys Ile Gly His Thr Gly Thr Leu Asp Pro Glu Val Asn Gly
                      35                      40                      45
      Val Leu Pro Ile Cys Leu Gly Asp Ala Thr Lys Val Ser Asp Tyr Ile
                      50                      55                      60
      Met Glu Met Gly Lys Thr Tyr His Ala Met Ile Thr Leu Gly Lys Ser
      65                      70                      75                      80
      Thr Thr Thr Glu Asp Gln Thr Gly Asp Ile Leu Glu Thr Arg Ala Val
                      85                      90                      95
      Asp Lys Asn Asp Ile Asn Glu Asp Thr Ile Asp Gln Val Leu Gln Gln
                      100                     105                     110
      Phe Glu Gly His Ile Gln Gln Ile Pro Pro Met Tyr Ser Ser Val Lys
                      115                     120                     125
      Val Asn Gly Arg Lys Leu Tyr Glu Tyr Ala Arg Asn Asn Glu Thr Val
                      130                     135                     140
      Glu Arg Pro Lys Arg Gln Val Phe Ile Lys Asp Ile His Arg Ile Ser
      145                     150                     155                     160
      Glu Val Thr Phe Gln Glu Gln Thr Cys His Phe Glu Val Glu Val Thr
                      165                     170                     175
      Cys Gly Lys Gly Thr Tyr Ile Arg Thr Leu Ala Thr Asp Ile Gly Leu
                      180                     185                     190
      Lys Leu Gly Phe Pro Ala His Met Ser Arg Leu Thr Arg Ile Ala Ser
                      195                     200                     205
      Gly Gly Phe Gln Leu Glu Ser Ser Leu Thr Ile Asp Gln Ile Lys Glu
                      210                     215                     220
      Leu His Glu His Asp Ser Leu His Asn Glu Leu Phe Pro Ile Glu Tyr
      225                     230                     235                     240
      Gly Leu Lys Gly Leu Lys Ser Phe Gln Val Lys Asp Ser Asn Phe Lys
                      245                     250                     255
      Lys Lys Ile Cys Asn Gly Gln Lys Phe His Lys Lys Val Leu Ser Gln
                      260                     265                     270
      Asn Val Lys Glu Pro Phe Ile Phe Val Asp Ser Ser Thr Gln Lys Val
                      275                     280                     285
```

Leu Ala Ile Tyr Ile Val His Pro Asp Lys Pro Tyr Glu Ile Lys Pro
    290   295   300
Lys Lys Val Phe Asn
305

<210> 4252
<211> 149
<212> PRT
<213> S.epidermidis

<400> 4252
Val Ser Arg Lys Lys Val His Gln Phe Thr Glu Asn Tyr Asp Thr Leu
1   5   10   15
Leu Ile Gly Ile Asp Met Ser Arg Asp Thr Leu Tyr Leu Arg Ile Asn
            20   25   30
Lys Arg Val Asp Ile Met Leu Gly His Gly Leu Phe Asn Glu Val Gln
        35   40   45
His Leu Val Glu Gln Gly Phe Glu Ala Ser Gln Ser Met Gln Ala Ile
    50   55   60
Gly Tyr Lys Glu Leu Val Pro Val Ile Lys Gly Asn Ile Ser Met Glu
65   70   75   .80
Asn Ala Val Glu Lys Leu Lys Gln His Ser Arg Gln Tyr Ala Lys Arg
            85   90   95
Gln Leu Thr Trp Phe Lys Asn Lys Met Asn Val His Trp Leu Asn Lys
            100   105   110
Glu Arg Met Ser Leu Gln Met Met Leu Asp Glu Ile Thr Thr Gln Ile
        115   120   125
Asn Lys Arg Ser Ser Asn His Asp Cys Lys Arg Lys His Pro Arg Pro
    130   135   140
Ser Thr Arg Glu Leu
145

<210> 4253
<211> 52
<212> PRT
<213> S.epidermidis

<400> 4253
Asn Ile Leu Asn Cys Asn Phe Thr Phe Gln Leu Ile Lys Leu Ser Ile
1   5   10   15
Ile Asn Asn Val Val Ile Tyr Ile Phe Asn Phe Asn Val Leu Ile Arg
            20   25   30
Phe Ser Ser His Ser Thr His Leu Tyr Asp Asn Thr Tyr Ser Asn Tyr
        35   40   45
Phe Met Asn Lys
    50

<210> 4254
<211> 297
<212> PRT
<213> S.epidermidis

<400> 4254
Phe Leu Leu Asn Ile Lys Glu Val Lys Ser Met Leu Glu Phe Arg Asn
1   5   10   15
Val Tyr Lys Ser Phe Lys Lys Lys Glu Val Leu Cys Asp Val Asn Tyr

```
                20                      25                      30
Lys Leu Ser Ala Gly Glu Lys Val Gly Leu Ile Gly Ser Asn Gly Ser
            35                      40                      45
Gly Lys Ser Thr Leu Met Lys Leu Ile Ala Lys Thr Gln Leu Pro Ser
        50                      55                      60
Lys Gly Asn Val Tyr Phe Asn Asn Ile Asp Ile His Lys Ser His Asn
65                      70                      75                      80
Met Ile Lys Asp Phe Ser Phe Met Ile Gly Gln Ile Tyr Tyr Pro Glu
                85                      90                      95
Leu Asn Ala Arg Gln Asn Ile Glu Asn Tyr Leu Lys Ile Asn Asn Lys
            100                     105                     110
Ile Ser Tyr Ile Ser Glu Ile Gln Lys Met Leu Asn Ile Val Gly Leu
            115                     120                     125
Glu Asp Ile Glu Lys Lys Val Lys Asn Tyr Ser Tyr Gly Met Lys Gln
        130                     135                     140
Arg Leu Cys Leu Ala Ile Cys Leu Ile Thr Lys Pro Pro Val Ala Val
145                     150                     155                     160
Leu Asp Glu Pro Phe Leu Gly Leu Asp Pro Leu Gly Val Arg Glu Leu
                165                     170                     175
Asn Asn Ile Thr Glu Lys Tyr Ser Lys Glu Lys Asn Thr Leu Phe Leu
            180                     185                     190
Ile Ser Ser His Gln Leu Lys Glu Leu Glu Asp Leu Cys Asp Arg Phe
            195                     200                     205
Leu Leu Leu Glu Asn His Gln Ile Arg Glu Ile Asp Leu His Asn Arg
        210                     215                     220
Ile Phe Thr Gln Lys Leu Ile Phe Lys Asn Thr Leu Asn Asn Ala Pro
225                     230                     235                     240
Glu Leu Lys Ala Asn Phe Asn Phe Ile Lys Lys Ile Asp Ser Asn Ser
                245                     250                     255
Ile Thr Ile Ile Asn Lys Asp Glu Glu Val Asp Leu Thr Asn Leu Leu
            260                     265                     270
Asn Leu Val Gly Lys Asn Pro Leu Ile Lys Ile Glu Ser Asn Asp Asn
        275                     280                     285
Leu Leu Ser Ser Tyr Phe Tyr Lys Glu
    290                     295
```

<210> 4255
<211> 105
<212> PRT
<213> S.epidermidis

<400> 4255

```
Val Leu Leu Lys Leu Thr Glu Tyr Leu Leu Ile Ile Met Ile Ala Ile
1               5                       10                      15
Ile Lys Phe Asn Ala Leu Arg Lys Arg Phe Gln Met Ser Lys Glu Asn
            20                      25                      30
Leu Asn Ile Asp Arg Ile Asn Glu Leu Ala Arg Lys Lys Lys Glu His
        35                      40                      45
Gly Leu Thr Asn Glu Glu Ala Lys Glu Gln Thr Lys Leu Arg Arg Gln
    50                      55                      60
Tyr Leu Glu Glu Phe Arg Lys Gly Phe Lys Gln Gln Ile Glu Asn Thr
65                      70                      75                      80
Lys Val Ile Asp Pro Glu Gly Asn Asp Val Thr Pro Glu Lys Leu Lys
                85                      90                      95
Lys Ile Gln Glu Glu Lys His Asn Lys
            100                     105
```

<210> 4256
<211> 914
<212> PRT
<213> S.epidermidis

<400> 4256

Arg	His	Ile	Asn	Ile	Tyr	Lys	Tyr	Gln	Gly	Gly	Tyr	Lys	Met	Ala	Ser
1				5					10					15	
Asn	Ile	Lys	Glu	Gln	Ala	Lys	Lys	Gln	Phe	Glu	Leu	Asn	Gly	Gln	Ser
		20					25					30			
Tyr	Thr	Tyr	Tyr	Asp	Leu	Gln	Thr	Leu	Glu	Glu	Lys	Gly	Leu	Ala	Lys
	35					40					45				
Ile	Ser	Lys	Leu	Pro	Tyr	Ser	Ile	Arg	Val	Leu	Leu	Glu	Ser	Val	Leu
	50					55					60				
Arg	Gln	Glu	Asp	Asp	Phe	Val	Ile	Thr	Asp	Asp	His	Ile	Lys	Ala	Leu
65					70					75					80
Ser	Lys	Phe	Gly	Asn	Ala	Gly	Asn	Glu	Gly	Glu	Val	Pro	Phe	Lys	Pro
				85					90					95	
Ser	Arg	Val	Ile	Leu	Gln	Asp	Phe	Thr	Gly	Val	Pro	Ala	Val	Val	Asp
			100					105					110		
Leu	Ala	Ser	Leu	Arg	Lys	Ala	Met	Asn	Asp	Val	Gly	Gly	Asp	Ile	Asn
		115					120					125			
Lys	Ile	Asn	Pro	Glu	Val	Pro	Val	Asp	Leu	Val	Ile	Asp	His	Ser	Val
		130					135					140			
Gln	Val	Asp	Ser	Tyr	Ala	Asn	Pro	Glu	Ala	Leu	Glu	Arg	Asn	Met	Lys
145					150					155					160
Leu	Glu	Phe	Glu	Arg	Asn	Tyr	Glu	Arg	Tyr	Gln	Phe	Leu	Asn	Trp	Ala
				165					170					175	
Thr	Lys	Ala	Phe	Asp	Asn	Tyr	Asn	Ala	Val	Pro	Pro	Ala	Thr	Gly	Ile
			180					185					190		
Val	His	Gln	Val	Asn	Leu	Glu	Tyr	Leu	Ala	Asn	Val	Val	His	Val	Arg
		195					200					205			
Asp	Val	Asp	Gly	Glu	Lys	Thr	Ala	Phe	Pro	Asp	Thr	Leu	Val	Gly	Thr
		210					215					220			
Asp	Ser	His	Thr	Thr	Met	Ile	Asn	Gly	Ile	Gly	Val	Leu	Gly	Trp	Gly
225					230					235					240
Val	Gly	Gly	Ile	Glu	Ala	Glu	Ala	Gly	Met	Leu	Gly	Gln	Pro	Ser	Tyr
				245					250					255	
Phe	Pro	Ile	Pro	Glu	Val	Ile	Gly	Val	Arg	Leu	Thr	His	Ser	Leu	Pro
			260					265					270		
Gln	Gly	Ser	Thr	Ala	Thr	Asp	Leu	Ala	Leu	Arg	Val	Thr	Glu	Glu	Leu
		275					280					285			
Arg	Lys	Lys	Gly	Val	Val	Gly	Lys	Phe	Val	Glu	Phe	Phe	Gly	Pro	Gly
	290					295					300				
Val	Gln	His	Leu	Pro	Leu	Ala	Asp	Arg	Ala	Thr	Ile	Ala	Asn	Met	Ala
305					310					315					320
Pro	Glu	Tyr	Gly	Ala	Thr	Cys	Gly	Phe	Phe	Pro	Val	Asp	Glu	Glu	Ser
			325					330					335		
Leu	Lys	Tyr	Met	Lys	Leu	Thr	Gly	Arg	Asp	Glu	Glu	His	Ile	Glu	Leu
			340					345					350		
Val	Lys	Glu	Tyr	Leu	Gln	Gln	Asn	His	Met	Phe	Phe	Asp	Val	Glu	Lys
		355					360					365			
Glu	Asp	Pro	Glu	Tyr	Thr	Asp	Val	Ile	Asp	Leu	Asp	Leu	Ser	Thr	Val
		370					375					380			
Glu	Ala	Ser	Leu	Ser	Gly	Pro	Lys	Arg	Pro	Gln	Asp	Leu	Ile	Phe	Leu

```
385                     390                     395                     400
Ser Asp Met Lys Lys Glu Phe Glu Lys Ser Val Thr Ala Pro Ala Gly
                405                     410                     415
Asn Gln Gly His Gly Leu Asp Gln Ser Glu Phe Asp Lys Lys Ala Glu
                420                     425                     430
Ile Asn Phe Asn Asp Gly Ser Lys Ala Thr Met Lys Thr Gly Asp Ile
            435                     440                     445
Ala Ile Ala Ala Ile Thr Ser Cys Thr Asn Thr Ser Asn Pro Tyr Val
        450                     455                     460
Met Leu Gly Ala Gly Leu Val Ala Lys Lys Ala Val Glu Lys Gly Leu
465                     470                     475                     480
Lys Val Pro Glu Phe Val Lys Thr Ser Leu Ala Pro Gly Ser Lys Val
                485                     490                     495
Val Thr Gly Tyr Leu Arg Asp Ser Gly Leu Gln Gln Tyr Leu Asp Asp
                500                     505                     510
Leu Gly Phe Asn Leu Val Gly Tyr Gly Cys Thr Thr Cys Ile Gly Asn
            515                     520                     525
Ser Gly Pro Leu Leu Ile Glu Ile Glu Lys Ala Val Ala Asp Glu Asp
        530                     535                     540
Leu Leu Val Thr Ser Val Leu Ser Gly Asn Arg Asn Phe Glu Gly Arg
545                     550                     555                     560
Ile His Pro Leu Val Lys Ala Asn Tyr Leu Ala Ser Pro Gln Leu Val
                565                     570                     575
Val Ala Tyr Ala Leu Ala Gly Thr Val Asp Ile Asp Leu Gln Asn Glu
                580                     585                     590
Pro Ile Gly Lys Gly Lys Asp Gly Lys Asp Val Tyr Leu Gln Asp Ile
            595                     600                     605
Trp Pro Ser Ile Gln Glu Val Ser Asp Thr Val Asp Lys Val Val Thr
        610                     615                     620
Pro Glu Leu Phe Leu Glu Glu Tyr Lys Asn Val Tyr His Asn Asn Glu
625                     630                     635                     640
Met Trp Asn Glu Ile Asp Val Thr Asp Glu Pro Leu Tyr Asp Phe Asp
                645                     650                     655
Pro Asn Ser Thr Tyr Ile Gln Asn Pro Thr Phe Phe Gln Gly Leu Ser
            660                     665                     670
Lys Glu Pro Gly Lys Ile Glu Pro Leu Lys Ser Leu Arg Val Met Gly
            675                     680                     685
Lys Phe Gly Asp Ser Val Thr Thr Asp His Ile Ser Pro Ala Gly Ala
        690                     695                     700
Ile Gly Lys Asp Thr Pro Ala Gly Lys Tyr Leu Leu Asp His Asp Val
705                     710                     715                     720
Ala Ile Arg Asn Phe Asn Ser Tyr Gly Ser Arg Arg Gly Asn His Glu
            725                     730                     735
Val Met Val Arg Gly Thr Phe Ala Asn Ile Arg Ile Lys Asn Gln Leu
            740                     745                     750
Ala Pro Gly Thr Glu Gly Gly Phe Thr Thr Tyr Trp Pro Thr Gly Glu
        755                     760                     765
Ile Met Pro Ile Tyr Asp Ala Ala Met Lys Tyr Lys Glu Asp Gly Thr
        770                     775                     780
Gly Leu Val Val Leu Ala Gly Asn Asp Tyr Gly Met Gly Ser Ser Arg
785                     790                     795                     800
Asp Trp Ala Ala Lys Gly Thr Asn Leu Leu Gly Val Lys Thr Val Ile
                805                     810                     815
Ala Gln Ser Tyr Glu Arg Ile His Arg Ser Asn Leu Val Met Met Gly
            820                     825                     830
Val Leu Pro Leu Gln Phe Gln Gln Gly Glu Ser Ala Glu Ala Leu Gly
```

```
            835                    840                    845
Leu Asp Gly Lys Glu Glu Ile Ser Val Asp Ile Asn Glu Asp Val Gln
    850                    855                    860
Pro His Asp Leu Val Asn Val Thr Ala Lys Lys Glu Asn Gly Glu Ile
865                    870                    875                    880
Ile Asn Phe Lys Ala Ile Val Arg Phe Asp Ser Leu Val Glu Leu Asp
                885                   ·890                    895
Tyr Tyr Arg His Gly Gly Ile Leu Gln Met Val Leu Arg Asn Lys Leu
            900                    905                    910
Ala Gln
```

```
<210> 4257
<211> 58
<212> PRT
<213> S.epidermidis
```

```
<400> 4257
Ile Ala Ile Asn Thr Gly Asn Gln Phe Thr Ile Ala Leu Thr Phe Phe
1               5                   10                  15
Ile Ile Lys Gly Gln Leu Asn Leu Arg Asn Arg Arg Met Glu Asp Glu
            20                  25                  30
Tyr Pro Arg Val Ser Arg Glu Arg Asn Ile Ser Phe Asn Gly Arg Cys
        35                  40                  45
Ser Ser Arg Gly Thr Ser Ser Ile Tyr Cys
        50                  55
```

```
<210> 4258
<211> 241
<212> PRT
<213> S.epidermidis
```

```
<400> 4258
Arg Gly Val Lys Met Ser Glu Met Ser Ala Ile Tyr Arg Val Lys Gln
1               5                   10                  15
Tyr Ile Leu Asn Leu Ile Lys Asp Gly Glu Leu Thr Asn Gly Ser Lys
            20                  25                  30
Leu Pro Ser Asn Leu Ser Ile Ala Arg Ala Leu Asn Val Lys Thr Asp
            35                  40                  45
Asp Val Tyr Asp Gly Ile Asp Glu Leu Ile Thr Glu Gln Val Val Thr
        50                  55                  60
Asp Asn Phe Glu Glu Gly Thr Ser Val Lys Val Lys Pro Pro Phe Tyr
65                  70                  75                  80
Tyr Pro Leu Asn Lys Ile Ile Ser Ile Gly Thr Met Ile Lys Glu Ala
                85                  90                  95
Gly Tyr Glu Ala Gly Thr Glu Tyr Leu Asn Leu Asp Glu Gln Pro Ala
            100                 105                 110
Thr Ile Leu Asp Ala Glu His Leu Gly Ile Glu Thr Lys Glu Pro Ile
        115                 120                 125
Thr Ile Ile Glu Arg Leu Arg Thr Ala Asn His Lys Pro Val Val Tyr
        130                 135                 140
Cys Leu Asp Lys Ile Ala Lys Thr Tyr Leu Thr Cys Thr Asp Tyr Gln
145                 150                 155                 160
Gln Ser Ser Gly Ser Met Leu Glu Ala Ile Lys Ala Ser Thr Asn His
                165                 170                 175
Gln Ile Met His Ala Glu Met Asp Leu Glu Ala Ile Ser Tyr Glu Pro
```

```
                180                      185                      190
His Ile Ser Glu Val Leu Asn Ala Ser Pro His Glu Gly Leu Met Leu
            195                      200                      205
Leu Lys Val Val His Tyr Asp Glu Lys His Gln Pro Ile Leu Tyr Ser
            210                      215                      220
Leu Asn Tyr Ile Lys Ser Ser Leu Val Lys Phe Thr Ile Thr Lys Ser
225                      230                      235                      240
Glu
```

<210> 4259
<211> 362
<212> PRT
<213> S.epidermidis

<400> 4259

```
Arg Gly Val Lys Gln Leu Thr Ala Ile Trp Ser Leu Asp Thr Glu Ala
1               5                      10                      15
Phe Tyr Gln Asn Ala Val Lys Val Lys Asn Asn Glu Pro Ile Met Ala
            20                      25                      30
Val Val Lys Asn Asn Ala Tyr His Tyr Gly Leu Glu Phe Ala Val Lys
            35                      40                      45
Thr Phe Leu Lys Ala Glu Ile Asn Thr Phe Ser Thr Thr Ser Leu Asn
            50                      55                      60
Glu Ala Ile Arg Val Arg Lys Ile Ala Pro Glu Ala Thr Ile Phe Leu
65                      70                      75                      80
Met Asn Pro Val Tyr Asp Phe Asp Leu Val Lys Arg Tyr Asp Ile His
                85                      90                      95
Met Thr Leu Pro Ser Leu Asn Tyr Tyr Tyr Lys Tyr Lys Gln Asp Leu
            100                      105                      110
Lys Gly Ile His Val His Leu Glu Tyr Glu Asn Leu Leu His Arg Ser
            115                      120                      125
Gly Phe Arg Asn Ile Glu Glu Ile Arg Glu Val Leu Lys Asp His Asp
            130                      135                      140
Gln Asn Asn Gln Asp Lys Met Ile Ile Ser Gly Ile Trp Thr His Phe
145                      150                      155                      160
Gly Tyr Ala Asp Glu Phe Asp Val Asp Glu Tyr Lys Met Glu Arg Asp
                165                      170                      175
Ala Trp Leu Asn Leu Ile Asn Thr Leu Leu Asn Glu Asn Tyr His Phe
            180                      185                      190
Asp Met Ile His Ser Gln Asn Ser Ala Ser Tyr Phe Arg Glu Asn Gln
            195                      200                      205
Met Leu Leu Pro His His Thr His Ala Arg Val Gly Ile Ala Leu Tyr
            210                      215                      220
Gly Ser Arg Pro Tyr Ser Leu Ile Asn Glu Glu Arg Ile Thr Gln Ser
225                      230                      235                      240
Leu Thr Val Lys Gly Asn Val Ile Gln Val Arg Asp Val Asn Lys Gly
                245                      250                      255
Asp Tyr Cys Gly Tyr Ser Phe Ala Phe Glu Val Lys Asn Asp His Thr
                260                      265                      270
Gln Leu Ala Val Val Asp Ile Gly Tyr Gly Asp Gly Ile Leu Lys Ser
            275                      280                      285
Arg Ala Lys His Glu Ala Ile Ile Asn Gly Lys Arg Tyr Pro Ile Arg
            290                      295                      300
Ala Leu Met Met Ser His Met Phe Ile Glu Val Asp Asp Glu Val His
305                      310                      315                      320
```

```
Ala Gln Asp Glu Val Ile Leu Tyr Asn Lys Asp Ile Arg Ile Asp Glu
            325                 330                 335
Phe Thr Phe Lys Gly Val Gly Ala Asn Ser Glu Gln Leu Ser Ala Met
            340                 345                 350
Asn His Asp Ser Leu Met Lys Glu Tyr Leu
            355                 360
```

<210> 4260
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4260
```
Ser Leu Val Asn Met Lys Val Asn Leu Asn Asn Leu Ser Cys Ser Cys
1               5                   10                  15
Leu Phe His Leu Ile Lys Asn Thr Tyr Lys Tyr Ile Phe Lys Trp Asp
            20                  25                  30
Glu Tyr Ser Lys Tyr Ser Asn Asp Glu Arg Leu Lys Lys Lys Val
            35                  40                  45
```

<210> 4261
<211> 364
<212> PRT
<213> S.epidermidis

<400> 4261
```
Leu Arg Ala Asn Gln His Phe Ser Ser Asn Lys Leu Ile Asn Ile Asp
1               5                   10                  15
Leu Thr Leu Glu Gly Thr Leu Val Ile Ser Phe Glu Asn Asp Tyr Leu
            20                  25                  30
Glu Gly Ala His Glu Lys Val Leu Asn Arg Leu Val Glu Thr Asn Arg
            35                  40                  45
Ile Gln Ala Ala Gly Tyr Gly Phe Asp Asp Phe Ser Ala Gln Ala Ala
        50                  55                  60
Asp Lys Ile Arg Gln Arg Ile Asp Cys Pro Asp Ala Thr Ile Arg Phe
65                  70                  75                  80
Leu Val Gly Gly Thr Gln Thr Asn Gln Val Val Ile Asn Ser Met Leu
                85                  90                  95
Asp Ser Tyr Glu Gly Val Ile Ser Ala Asp Thr Gly His Val Ala Val
            100                 105                 110
His Glu Gly Gly Ala Ile Glu Phe Ser Gly His Lys Val Leu Thr Ile
            115                 120                 125
Pro Ser Gln Glu Gly Lys Ile Thr Ala Gln Asp Val Glu Asn Tyr Ile
            130                 135                 140
Glu Thr Phe Glu Ser Asp Phe Lys Lys Glu His Met Val Tyr Pro Gly
145                 150                 155                 160
Met Val Tyr Ile Ser His Pro Thr Glu Tyr Gly Thr Leu Tyr Thr Lys
                165                 170                 175
Glu Glu Leu Gln Ser Leu Ser Arg Val Cys Arg Arg His Gln Ile Pro
            180                 185                 190
Leu Phe Met Asp Gly Ala Arg Leu Gly Tyr Gly Leu Met Ser Asn Gln
            195                 200                 205
Thr Asn Val Thr Ile Glu Asp Val Ala Lys Tyr Cys Asp Val Phe Tyr
            210                 215                 220
Ile Gly Gly Thr Lys Ile Gly Ala Leu Cys Gly Glu Ala Ile Val Phe
225                 230                 235                 240
```

Thr Lys Gln Asn Glu Pro Lys Asn Phe Thr Thr Ile Ile Lys His His
     245   250   255

Gly Ala Leu Leu Ala Lys Gly Arg Leu Thr Gly Val Gln Phe Leu Glu
     260   265   270

Leu Phe Thr Asp Asp Leu Tyr Phe Asp Ile Ser Arg His Ala Ile Lys
     275   280   285

Met Ala Glu Lys Val Lys Lys Gly Phe Ile Asp Lys Gly Tyr Gln Val
     290   295   300

Tyr Phe Asp Ser Pro Thr Asn Gln Gln Phe Phe Ile Leu Ser Asn Asp
305   310   315   320

Lys Ile Glu Glu Leu Lys Gln Lys Val Lys Phe Ala Val Trp Glu Lys
     325   330   335

Tyr Asp Asn Gln His Arg Val Val Arg Phe Ala Thr Ser Trp Ala Thr
     340   345   350

Thr Glu Glu Asn Val Asn Gln Leu Leu Glu Leu Ile
     355   360

<210> 4262
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4262
Ala Asn Lys Lys Glu Thr Cys Glu Val Ser Ser Ser Leu Leu Asn Phe
1   5   10   15

Met Thr Asp Tyr Phe Ile Cys Pro Leu Thr Ser Ser Ala Lys Phe Ser
     20   25   30

Ser Arg Phe Ser Ile Pro Ser Pro Thr Ser
     35   40

<210> 4263
<211> 318
<212> PRT
<213> S.epidermidis

<400> 4263
Gln Ile Lys Lys Gly Ile Gly Ala Asp Val Val Ser Gln Ser His Phe
1   5   10   15

Lys Ile Thr Val Glu Asp Gly Thr Met Leu Glu Val Lys Ile Asp Lys
     20   25   30

Ala Lys Lys Ser Thr Ile Gly Ile Val His Leu Phe His Gly Met Ala
     35   40   45

Glu His Met Asp Arg Tyr Gln Glu Leu Val Glu Ala Leu Asn Thr Gln
     50   55   60

Gly Tyr Asp Val Val Arg His Asn His Arg Gly His Gly Lys Glu Ile
65   70   75   80

Asp Glu Asn Glu Arg Gly His Phe Asn Ser Met Asn Gln Ile Val Asp
     85   90   95

Asp Ala Tyr Glu Ile Ile Glu Thr Leu Tyr Leu Glu Glu Leu Asn Val
     100   105   110

Pro Tyr Ile Ile Ile Gly His Ser Met Gly Ser Ile Ile Ala Arg Ser
     115   120   125

Phe Val Glu Lys Tyr Pro Asp Ile Ala Gln Gly Leu Ile Leu Thr Gly
     130   135   140

Thr Gly Met Phe Pro Lys Trp Lys Gly Val Pro Ile Arg Leu Ala Met
145   150   155   160

```
Lys Leu Val Thr Phe Ile Phe Gly Lys Arg Arg Arg Leu Lys Trp Val
            165                 170                 175
Asn Gln Leu Leu Asn Lys Thr Phe Asn Lys Lys Ile Thr Gln Pro Arg
            180                 185                 190
Thr Asp Ser Asp Trp Ile Ser Thr Arg Gln Asp Glu Val Asp Lys Phe
            195                 200                 205
Val Glu Asp Glu Phe Cys Gly Phe Lys Val Ser Asn Gln Leu Ile Tyr
    210                 215                 220
Gln Thr Leu Lys Thr Met Met Lys Thr Val Glu Arg Gln Gln Leu Lys
225                 230                 235                 240
Arg Met Asp Lys Glu Leu Pro Ile Leu Phe Ile Ser Gly Lys Asp Asp
                245                 250                 255
Pro Phe Gly Glu Tyr Gly Lys Gly Ile Lys His Leu Ala Arg Leu Tyr
            260                 265                 270
Lys Arg Ala Gly Ile Lys His Ile Thr Val Gln Leu Tyr Lys His Lys
    275                 280                 285
Arg His Glu Ile Leu Phe Glu Glu Asp Tyr Leu Lys Thr Trp Gln His
    290                 295                 300
Met Phe Glu Trp Met Glu Lys Gln Ile Leu Lys Lys Gln Lys
305                 310                 315
```

<210> 4264
<211> 131
<212> PRT
<213> S.epidermidis

<400> 4264

```
Lys Glu Lys Asn Thr Arg Lys Ser Lys Lys Glu Ile Pro Asp Val Ile
1               5                   10                  15
Arg Ser Gly Lys Ile Lys Leu Asp Ile Asn Pro Glu Lys Gln Asn Arg
                20                  25                  30
His Ser Leu Asn His Ser Leu Tyr Leu Lys Asn Lys Asn Phe Ala Leu
            35                  40                  45
Lys Asn Asn Glu Arg Leu Pro Ser Tyr Thr Thr Leu Ser Ile Asn Glu
    50                  55                  60
Leu Asn Arg Leu Val Gln Gln Tyr Ser Thr Ser Gly Lys Ile Leu Ile
65                  70                  75                  80
Asn Lys Asn Gly Phe Asn His Lys Lys Val Ile Asn Phe Glu Arg Ile
                85                  90                  95
Ile Gly Lys Ala Phe Ile Asp Gly Lys Tyr Ile Glu Thr Thr Phe Gly
            100                 105                 110
Lys Val His Tyr Ser Lys Thr Asp Ser His Ile Ile Pro Phe Ile Ser
            115                 120                 125
Lys Glu Lys
    130
```

<210> 4265
<211> 289
<212> PRT
<213> S.epidermidis

<400> 4265

```
Gly Gly Lys Asn Val Ser Ser Asn Glu Leu Leu Leu Ala Thr Glu Tyr
1               5                   10                  15
Leu Glu Lys Glu Lys Lys Ile Pro Arg Glu Val Leu Ile Asp Ala Ile
                20                  25                  30
```

```
Glu Ala Ala Leu Ile Thr Ala Tyr Lys Lys Asn Tyr Asp Ser Ala Arg
        35                  40                  45
Asn Val Arg Val Glu Leu Asn Met Asp Glu Gly Ser Phe Arg Val Ile
    50                  55                  60
Ala Arg Lys Glu Val Val Glu Glu Val Phe Asp Asp Arg Asp Glu Val
65                  70                  75                  80
Asp Leu Ser Thr Ala Leu Val Lys Asn Pro Ala Tyr Glu Val Gly Asp
                85                  90                  95
Ile Tyr Glu Gln Asp Val Thr Pro Lys Asp Phe Gly Arg Val Gly Ala
                100                 105                 110
Gln Ala Ala Lys Gln Ala Val Met Gln Arg Leu Arg Asp Ala Glu Arg
        115                 120                 125
Glu Ile Leu Tyr Asp Glu Phe Ile Asp Lys Glu Glu Asp Ile Leu Thr
        130                 135                 140
Gly Val Ile Asp Arg Val Asp His Arg Tyr Val Tyr Val Asn Leu Gly
145                 150                 155                 160
Arg Ile Glu Ala Val Leu Ser Glu Ala Glu Arg Ser Pro Asn Glu Lys
                165                 170                 175
Tyr Ile Pro Asn Glu Arg Ile Lys Val Tyr Val Asn Lys Val Glu Gln
                180                 185                 190
Thr Thr Lys Gly Pro Gln Ile Tyr Val Ser Arg Ser His Pro Gly Leu
        195                 200                 205
Leu Lys Arg Leu Phe Glu Gln Glu Val Pro Glu Ile Tyr Asp Gly Thr
        210                 215                 220
Val Ile Val Lys Ser Val Ala Arg Glu Ala Gly Asp Arg Ser Lys Ile
225                 230                 235                 240
Ser Val Tyr Ser Asp Asn Pro Asp Ile Asp Ala Val Gly Ala Cys Val
                245                 250                 255
Gly Ser Lys Gly Ala Arg Val Glu Ala Val Val Glu Glu Leu Gly Gly
                260                 265                 270
Glu Lys Ile Asp Ile Val Gln Trp Asp Glu Asp Pro Glu Ser Ile Cys
        275                 280                 285
Ser
```

```
<210> 4266
<211> 51
<212> PRT
<213> S.epidermidis
```

```
<400> 4266
Ala Met Lys Lys Glu Cys Ile His Met Pro Ile Ile Tyr Tyr Asp Gly
1               5                   10                  15
Asn Cys Val Tyr Cys Tyr Asn Tyr Ala Ile Trp Leu Ile Gln Asn Gly
        20                  25                  30
Leu Ser His Lys Tyr Glu Phe Ala Thr Ile Lys Gly Gln Ile Gly Lys
        35                  40                  45
Gln Phe Phe
    50
```

```
<210> 4267
<211> 44
<212> PRT
<213> S.epidermidis
```

```
<400> 4267
```

Asn Trp Lys Lys Arg Phe Ala Asn Met Met Met Lys Ser His Phe Val
1   5   10   15
Val Ile Asn Asn Asn Phe Ser Thr Leu Leu Pro Ser Tyr Leu Lys Gln
            20   25   30
Ser Cys Phe Leu Phe Leu Phe Tyr Leu Phe Ser Tyr
        35   40

<210> 4268
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4268
Ile Ser Arg Asn Leu Thr Ser Ile Glu Val Met His Tyr Glu Cys Thr
1   5   10   15
Leu Ile Thr Thr Phe Tyr Ser Ser Leu Phe Thr Ser Val Ala Ser Asp
            20   25   30
Asp Ser Leu Ser Thr Val Lys Val Leu Ile Ala Cys Leu
        35   40   45

<210> 4269
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4269
Ile Ile Arg Lys Gly Phe Ile Phe Ile Lys Tyr Phe Gly Glu Thr Leu
1   5   10   15
Glu Gly Thr Gly Gln Ala Glu Asp Tyr Arg Leu Lys Leu Ser Pro Lys
            20   25   30
Lys Ala Ser Gln Gln Tyr Glu Val Leu
        35   40

<210> 4270
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4270
Ala Ile Arg Asn Leu Ser Tyr Ile His Leu Ile Leu Gly Ser Ser Pro
1   5   10   15
Leu Lys Ile Leu Thr Ile Leu Asp Leu Cys Arg Ile Ile Asn Met Ile
            20   25   30
Glu Thr Ile Pro Leu Thr Ala Ser Lys Ile
        35   40

<210> 4271
<211> 866
<212> PRT
<213> S.epidermidis

<400> 4271
Met Arg Arg Lys Ala Cys Phe Ile Ile Leu Leu Ile Thr Leu Ser Leu
1   5   10   15
Ile Gly His Ser Tyr Ile Ile Phe Arg Phe His His Asp Gly Val Leu
            20   25   30

Ser Thr Gly Pro Asn Asp Gly Met Glu Gln Met Ile Pro Ile Gln Met
     35   40   45

Tyr Leu Tyr His Gln Trp Thr Gln Gly Asn Leu Phe Tyr Ser Thr His
     50   55   60

Leu Gly Leu Gly Gly Asp Phe Phe Thr Asp Leu Ser Tyr Tyr Phe Ser
65   70   75   80

Thr Asn Leu Ile Phe Ile Leu Asn Val Pro Ile Ile Lys Leu Cys Glu
           85   90   95

Ile Phe Phe Ser Leu Asn Thr Asn Gln Ile Leu Leu Trp Met Tyr Asn
         100   105   110

Ala Leu Ile Val Ser Ile Ile Lys Ser Thr Ile Ala Leu Phe Cys Thr
         115   120   125

Tyr Leu Phe Ser Tyr Tyr Ile Ser Lys Asn Lys Ile Ile Ser Leu Leu
     130   135   140

Ile Ser Phe Ile Phe Val Met Ser Pro Leu Tyr Phe Arg Phe Thr Ile
145   150   155   160

Tyr Trp Pro Phe Phe Ser Asp Thr Phe Ile Trp Leu Pro Leu Leu Leu
         165   170   175

Leu Gly Ile Glu Arg Leu Leu Arg Asp Phe Lys Ala Gly Leu Phe Ile
         180   185   190

Leu Thr Val Ser Leu Ile Leu Ile Asn Asn Phe Tyr Phe Ala Tyr Tyr
         195   200   205

Phe Leu Ile Ile Gly Ile Gly Tyr Thr Leu Ile Arg Ile Ile Tyr Arg
     210   215   220

His Pro Lys Asp Ser Leu Thr Arg Trp Gln Ala Ser Leu Thr Ile Ile
225   230   235   240

Cys Ser Ala Leu Leu Ala Leu Gly Asn Ser Met Phe Val Phe Phe His
         245   250   255

Gly Val Gln Ser Phe Leu Asn Asn Arg Arg Gln Ser Phe Thr Gly Gln
         260   265   270

Val Asn Trp Ile Glu His Leu Asn Lys Asp Thr Asn Ile Phe Phe Asp
         275   280   285

Asn Tyr Leu Ile Val Val Ile Phe Leu Ser Ile Gln Ala Leu Leu Thr
     290   295   300

Ile Lys Leu Tyr Lys His Phe Tyr Tyr Lys Leu Phe Ala Leu Leu Leu
305   310   315   320

Leu Ala Thr Ile Ile Phe Ala Phe Leu Pro Phe Val Asp Gln Leu Phe
         325   330   335

Asn Gly Phe Ser Ala Pro Gln Lys Arg Trp His Phe Ile Leu Ala Phe
         340   345   350

Asn Ser Ser Ile Leu Ile Gly Leu Phe Val Lys Tyr Phe Lys Thr Ile
         355   360   365

Arg Pro Lys Thr Tyr Ile Tyr Thr Asn Leu Ile Ala Gln Ser Val Ile
     370   375   380

Tyr Ile Ser Ser Ile Ser Tyr Asn Thr Phe Leu Pro Trp Leu Ser Leu
385   390   395   400

Val Pro Val Val Ser Val Ile Gly Leu Leu Ile Leu Leu Ile Lys Glu
         405   410   415

Lys Lys Val Arg Tyr Tyr Leu Thr Tyr Leu Tyr Ser Ile Ser Ile Ala
         420   425   430

Ala Leu Ser Leu Met Ile Thr Phe Val Phe Ile Lys Asn Gln Ile Phe
         435   440   445

Phe Gln Asp His Ile Asn Arg Ala Asn Lys Arg Tyr Ile Asn Ser Ser
     450   455   460

Phe Tyr Asn Ser Ala Ile Gln Arg Ser Leu Val Lys Glu Met Asn Gln
465   470   475   480

Thr Lys Asn Asp Asp Gln Arg Ile Asn Trp Arg Val Asp Glu Gln Asp
                485   490   495
Asn Thr Pro Met Tyr Gln Asn Phe Lys Gly Leu Ser Ile Tyr Ser Ser
            500   505   510
Ile Phe His His Asn Ile Leu Asp Phe Tyr Tyr Asp Ala Leu Lys Ile
        515   520   525
Asn Leu Ala Glu Glu Ser Val Ser Arg Tyr Gln Ser Thr Asn Ala Arg
    530   535   540
Gln Asn Ile Glu Ser Leu Phe Ser Val Lys Tyr Leu Met Met Lys Asp
545   550   555   560
Tyr Gln Asn Phe Ile Pro Ser Tyr Phe Lys Lys Val Lys Ser Arg Gly
                565   570   575
Gln Tyr Ile Ile Tyr Lys Asn Gln Leu Pro Leu Pro Ser Val Lys Val
            580   585   590
Thr Gln Asn Ile Tyr Asn His Lys Ser Leu Lys Lys Pro Ile Asp Arg
        595   600   605
Glu His Ala Met Ile Asn Gly Ala Ile Val Thr Ser Lys Gly Thr Ala
    610   615   620
Tyr His Ser Lys Val Lys Asn Leu Leu Asp Gln Thr Arg Val Ser Thr
625   630   635   640
Gln Asn Ile Thr Arg Tyr Ser Asn Asn Glu Leu Thr Val Asn Lys Glu
                645   650   655
Ser Gly Ile Ile Lys Leu His Leu Pro Lys Asn Ile Arg Asp Lys Tyr
            660   665   670
Lys Asp Phe Tyr Leu Thr Met Asn Ile Lys Arg Gly Asp Pro Asp Ser
        675   680   685
Asn Tyr Thr Val Ser Ile Asn Gln Tyr His Asn His Arg Leu Tyr Asn
    690   695   700
Asp Ser Ile Tyr Arg Thr Gly Ile Ser Lys Val Leu Tyr Arg Ser Leu
705   710   715   720
Pro Asp Lys Asn Gly Asp Ile Thr Ile Gln Leu Ser Pro Lys Gly Lys
                725   730   735
Phe Asn Leu Glu Leu Leu Glu Leu Asn Gly Glu Asn Tyr Asp Thr Leu
            740   745   750
Lys Gln Ala His His His Ala Asn Phe Asn Met Arg Tyr Lys Asp Ile
            755   760   765
Lys Asn Gly Val Lys Val Asn Leu Asp His His Ser Lys Gly Leu Ala
    770   775   780
Val Ile Asn Ile Pro Tyr Arg Lys Gly Met Arg Ala Tyr Val Asp Asp
785   790   795   800
Arg Gln Ser Asn Ile Lys Lys Val Asn Tyr Met Met Thr Gly Val Pro
            805   810   815
Val Asn Lys Asn Asp Lys Thr Ile Thr Ile Gln Tyr Arg Pro Pro Phe
            820   825   830
Leu Lys Thr Met Phe Ser Ile Ser Ile Phe Ser Ile Val Val Ser Ile
        835   840   845
Val Phe Ile Arg Leu Lys Asn Ile Arg Lys Arg Lys Met Arg Ile Arg
    850   855   860
His Asp
865

<210> 4272
<211> 69
<212> PRT
<213> S.epidermidis

```
<400> 4272
Val Arg Arg Asn Lys Met Leu Ile Lys Asp Ala Tyr Arg Lys Asn Val
1               5                   10                  15
Ile Val Thr Leu Lys Asn Asn Glu Lys Phe Lys Gly Phe Val Phe Asp
            20                  25                  30
Tyr Glu Asn Pro Leu Glu Ser Asp Thr Gly Asn Tyr Ser Leu Asp Leu
        35                  40                  45
Glu Thr Asp Leu Gly Ile Tyr Ser Ile Asp Glu Ser Glu Ile Lys Ser
    50                  55                  60
Ile Lys Leu Ile Ser
65


<210> 4273
<211> 57
<212> PRT
<213> S.epidermidis


<400> 4273
Ser Ile Thr Leu Leu Leu Lys Tyr Ile Ser Asp Tyr Thr Thr Tyr Lys
1               5                   10                  15
Tyr Phe Ser Lys Tyr Tyr Asn Tyr Val Asn Leu Ile Met Leu Lys Thr
            20                  25                  30
Phe Val Asn Leu Leu Lys Cys Ile Gly Lys Val Lys Asn Phe Lys Ile
            35                  40                  45
Lys Phe Asn Phe Leu Ile Leu Leu Pro
    50                  55


<210> 4274
<211> 235
<212> PRT
<213> S.epidermidis


<400> 4274
Asn Val Leu Lys Lys Ser Cys Asp Glu Ala Asn Lys Ala Leu Lys Leu
1               5                   10                  15
Tyr Asn Leu Ser Met Lys Val Ser Arg Glu Lys Leu Leu Lys Gln Gln
            20                  25                  30
Leu Asp Leu Ile Val Lys Asp Ser Ala Leu Asp Ile His Asp Glu Ile
        35                  40                  45
Glu Asn Lys Leu Val Asp Arg Glu Val Glu Arg Gln Ala His Ile Leu
    50                  55                  60
Gly Glu His Val Lys Ile Asp Asp Thr Glu Val Lys Ala Val Val Asn
65                  70                  75                  80
Ser Asn Phe Lys Gly Val Asn Trp Ser Thr Arg Leu Cys Gln Asp Met
            85                  90                  95
Ala Val Val Gln Lys Glu Val Glu Lys Thr Thr Ser Asn Val Leu Leu
            100                 105                 110
Arg Gly Arg His Pro Asn Glu Tyr Val Ala Lys Phe Lys Lys Gln Thr
        115                 120                 125
Asn Thr Thr Thr Tyr Asn Ala Ser Arg Leu Leu Val Thr Glu Ser Ala
    130                 135                 140
Cys Val Gln Ala Glu Ser Gln Lys Leu Thr Tyr Leu Lys Asp Leu Gly
145                 150                 155                 160
Glu Asp Gly Glu Tyr Lys Tyr Val Ala Lys Ile Asp Lys Lys Thr Ser
                165                 170                 175
Lys Ile Cys His Ser Leu Asn Gly Lys Val Phe Lys Val Lys Asp Met
```

```
              180                      185                      190
Met Pro Gly Val Asn Ala Pro Pro Met His Pro Trp Cys Arg Ser Thr
          195                      200                      205
Thr Val Thr His Val Gly Asn Trp Arg Asp Arg Phe Phe Thr Glu Arg
          210                      215                      220
Lys Gly Lys Tyr Gln Thr Glu Asn Lys Glu Ser
225                      230                      235
```

<210> 4275
<211> 423
<212> PRT
<213> S.epidermidis

<400> 4275

```
Leu Ile Met Asn Ser Ser Ser Gln Glu Lys Lys Asn Lys Lys Phe Ser
1                   5                   10                      15
Ser Val Phe Ile Tyr Ser Ser Ile Ile Ala Ala Ile Val Val Ile Ile
              20                      25                      30
Gly Ala Val Trp Pro Glu Lys Phe Asp Ser Val Thr Asn Thr Ala Lys
          35                      40                      45
Met Trp Ile Thr Asn Asn Leu Gly Trp Tyr Tyr Leu Ile Leu Thr Thr
          50                      55                      60
Val Ile Val Phe Phe Cys Val Phe Leu Ile Phe Ser Pro Ile Gly Lys
65                      70                      75                      80
Leu Lys Leu Gly Lys Pro Asn Asp Lys Pro Glu Phe Asn Thr Ile Ser
                  85                      90                      95
Trp Phe Ala Met Leu Phe Ser Ala Gly Met Gly Ile Gly Leu Val Phe
              100                     105                     110
Tyr Gly Ala Ala Glu Pro Met Ala His Phe Ala Ala Pro Pro Thr Ala
          115                     120                     125
Asp Pro Glu Thr Thr Lys Ala Tyr Thr Glu Ser Leu Arg Ser Thr Phe
          130                     135                     140
Phe His Trp Gly Phe His Ala Trp Ala Ile Tyr Gly Val Val Ala Leu
145                     150                     155                     160
Ala Leu Ala Tyr Ser Gln Phe Arg Lys Gly Glu Pro Gly Leu Ile Ser
                  165                     170                     175
Arg Thr Leu Arg Pro Leu Leu Gly Asp Lys Val Glu Gly Pro Ile Gly
              180                     185                     190
Thr Leu Ile Asp Val Leu Ser Val Phe Ala Thr Leu Val Gly Val Ala
          195                     200                     205
Val Ser Leu Gly Met Gly Ala Leu Gln Ile Asn Gly Gly Leu His Tyr
          210                     215                     220
Leu Phe Gly Val Pro Asn Asn Thr Phe Val Gln Gly Ile Ile Ile Val
225                     230                     235                     240
Val Val Thr Ile Leu Phe Ile Ala Ser Ala Trp Ser Gly Leu Ser Lys
                  245                     250                     255
Gly Ile Gln Tyr Leu Ser Asn Leu Asn Ile Gly Leu Gly Thr Ile Leu
              260                     265                     270
Met Ile Val Thr Leu Ile Val Gly Pro Thr Val Leu Ile Leu Asn Met
          275                     280                     285
Met Thr Ser Ser Thr Gly Ser Leu Leu Asn Ser Phe Leu Phe Asn Ser
          290                     295                     300
Phe Asp Thr Ala Ala Leu Asn Gly Gln Lys Arg Asp Trp Met Ser Thr
305                     310                     315                     320
Trp Thr Leu Tyr Tyr Trp Gly Trp Trp Leu Ser Trp Ser Pro Phe Val
                  325                     330                     335
```

```
Gly Val Phe Ile Ala Arg Val Ser Lys Gly Arg Ser Ile Arg Glu Phe
            340                 345                 350
Ile Ser Gly Val Leu Leu Val Pro Ala Leu Val Ser Phe Ile Trp Phe
            355                 360                 365
Ser Val Phe Gly Val Leu Gly Ile Glu Ala Gly Lys Lys Asp Ser Gly
        370                 375                 380
Leu Phe Lys Met Ser Pro Glu Thr Gln Leu Phe Gly Val Phe Asn His
385                 390                 395                 400
Ile Pro Leu Gly Ile Val Leu Ser Ile Ile Ala Leu Leu Leu Ile Ala
                405                 410                 415
Ser Leu Leu Cys Tyr Phe Ser
            420
```

<210> 4276
<211> 256
<212> PRT
<213> S.epidermidis

<400> 4276
```
Leu Ile Met Asn Phe Ile Phe Asp Ile Asp Gly Thr Ile Cys Phe Asp
1               5                   10                  15
Gly Cys Ser Ile Asp Ser Ser Ile Lys Gln Arg Leu Phe Lys Leu Arg
            20                  25                  30
Gln Ala Asn His Asn Val Ile Phe Ala Ser Ala Arg Pro Ile Arg Asp
        35                  40                  45
Leu Leu Pro Val Ile Pro Glu Phe Ala Asp Asp Thr Leu Ile Gly Gly
    50                  55                  60
Asn Gly Ser Ile Ile Ser Lys Asn Gly Gln Ile Glu Ile Val Ser Val
65                  70                  75                  80
Ile Asn Glu His Asp Ile Ser Leu Ile Lys Lys Ile Ile Lys Lys Tyr
                85                  90                  95
Gln Leu Ser Tyr Ile Ile Asp Asp Lys Phe Asn Tyr Ala Ser Asn Leu
        100                 105                 110
Asp Ser Asn Asn Glu Leu Tyr Gln Arg Ile Asp Pro Asp Gly Lys Ala
        115                 120                 125
Gln Ser Leu Asp Met Asp Glu Ile Arg Asn Pro Ile Lys Ala Ile Leu
    130                 135                 140
Leu Asn Ile Asp Asn Lys Asp Phe Asp Met Ile Ala His Gln Leu Val
145                 150                 155                 160
Ser Gln Ser His Gly Ile Glu Leu Ile Arg His Tyr Ser Glu Ser Tyr
                165                 170                 175
Ile Asp Val Thr Ala Arg Gly Val Asp Lys Tyr Thr Thr Ile Gln Tyr
            180                 185                 190
Ile Leu Gly Thr Asn Ser Asp Tyr Ile Ala Phe Gly Asn Asp His Asn
        195                 200                 205
Asp Val His Met Leu Glu His Ala Ser Gln Gly Tyr Phe Val Thr Asn
    210                 215                 220
Gln Phe Ile Glu His Thr Ser Phe Phe Lys Asn Lys Asn Ile Thr Val
225                 230                 235                 240
Ile Asp Asp Thr Ile Tyr Ala Ile Cys Glu Val Leu Asp Arg Tyr Leu
                245                 250                 255
```

<210> 4277
<211> 242
<212> PRT
<213> S.epidermidis

<400> 4277
Thr Ile Met Asn Ile Leu Leu Ile Gly Tyr Gly Ala Met Asn Gln Arg
1   5   10   15
Val Ala Arg Leu Ala Glu Asp Lys Gly His Glu Ile Val Gly Val Ile
            20   25   30
Asp Arg Thr Ser Lys Ala Ser Thr Pro Tyr Ser Gln Tyr Gln His Ile
            35   40   45
Ser Glu Cys Lys Glu Ala Asp Val Ala Ile Asp Phe Ser Asn Pro Glu
        50   55   60
Leu Leu Phe Pro Leu Leu Glu Glu Gln Phe Asn Leu Pro Leu Val Ile
65   70   75   80
Ala Thr Thr Gly Glu Lys Glu Thr Leu Ile Gln Lys Leu Glu Thr Leu
                85   90   95
Ser Gln Arg Thr Pro Val Phe Phe Ser Ala Asn Met Ser Tyr Gly Val
            100   105   110
His Ala Leu Thr Lys Ile Leu Glu Thr Ala Val Pro Leu Leu Gln Asp
        115   120   125
Phe Asp Ile Glu Leu Thr Glu Ala His His Asn Lys Lys Val Asp Ala
        130   135   140
Pro Ser Gly Thr Leu Val Lys Leu Tyr Asp Val Ile Lys Glu Leu Arg
145   150   155   160
Asp Asn Val Ser Pro Val Tyr Asp Arg His Glu Lys Thr Glu Lys Arg
                165   170   175
Thr His Asp Glu Ile Gly Ile His Ala Val Arg Gly Gly Thr Ile Val
            180   185   190
Gly Glu His Asp Ile Leu Phe Ala Gly Thr Asp Glu Thr Ile Thr Ile
        195   200   205
Ser His Lys Ala Gln Ser Lys Asp Ile Phe Ala Asn Gly Ala Ile Gly
        210   215   220
Ala Ala Glu Lys Leu Ile His Lys Asn Pro Gly Phe Tyr Thr Phe Asn
225   230   235   240
Asn Leu

<210> 4278
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4278
Thr Phe Val Asn Phe Tyr Glu Ser Pro Ile Ile Cys Val Ala Asn Ser
1   5   10   15
Asp Ile Val Thr Phe Tyr Glu Asn Asn Phe Ile Glu Asn Lys Ile Asn
            20   25   30
Phe Thr Lys Cys Ser His Leu Phe Val
        35   40

<210> 4279
<211> 410
<212> PRT
<213> S.epidermidis

<400> 4279
Gly Val Val Asn Leu Met Lys Asn Glu Lys Glu Ile Asn Gly Lys Lys
1   5   10   15

```
Ser His Phe Phe Ser Leu Ser Glu Ser Arg Phe Met Arg Phe Leu Gly
            20                  25                  30
Gly Asn Asp Leu Ile Tyr Ala Leu Ile Ala Leu Val Leu Leu Gly Ile
            35                  40                  45
Val Ile Phe Ile Phe Asp Lys Ile Ser Tyr Val Phe Gln Pro Phe Ile
    50                  55                  60
Ile Val Phe Asn Thr Ile Ala Ala Pro Ile Ile Val Ser Leu Val Leu
65                  70                  75                  80
Phe Tyr Leu Phe Asn Pro Ile Val Asn Met Met Glu Arg Tyr Arg Ile
                85                  90                  95
Pro Arg Leu Leu Gly Ile Thr Ile Ile Tyr Val Ala Ile Val Gly Ile
            100                 105                 110
Ile Thr Leu Ile Val Asn Leu Leu Ile Pro Ile Ile Gly Ser Gln Ile
            115                 120                 125
Glu Ser Phe Ile Lys Asn Thr Pro Asn Tyr Leu His Lys Ile Thr Arg
            130                 135                 140
Ser Leu Asp Lys Leu Asn Asn Asn Thr Ile Leu Ser Gly Tyr Met Gly
145                 150                 155                 160
Gln Val Asn Glu Trp Leu Glu Ser Ala Gln Lys Lys Ile Pro Ser Met
                165                 170                 175
Val Ser Asp Tyr Ser Asp Gly Phe Gly Ser Lys Leu Ala Thr Phe Ala
                180                 185                 190
Glu Ala Val Ala Asn Ile Gly Ile Val Ile Gly Thr Thr Pro Phe Val
            195                 200                 205
Leu Phe Phe Met Leu Lys Asp Gly His Lys Phe Lys Asp Tyr Thr Thr
    210                 215                 220
Lys Ile Met Pro Pro Lys Phe Arg Lys Asp Phe His Asp Leu Leu Glu
225                 230                 235                 240
Lys Met Ser Val Gln Val Gly Ser Tyr Ile Gln Gly Gln Ile Ile Val
                245                 250                 255
Ser Phe Cys Ile Gly Leu Leu Leu Phe Ile Gly Tyr Ser Ile Ile Gly
                260                 265                 270
Leu Lys Tyr Ala Leu Val Leu Ala Ser Ile Ala Ala Val Thr Ser Val
            275                 280                 285
Val Pro Tyr Leu Gly Pro Thr Ile Ala Ile Ser Pro Ala Ile Val Ile
    290                 295                 300
Ala Ile Ile Thr Ser Pro Leu Met Leu Leu Lys Leu Ala Val Val Trp
305                 310                 315                 320
Thr Leu Val Gln Phe Phe Glu Gly His Phe Ile Ser Pro Asn Val Met
                325                 330                 335
Gly Lys Thr Leu Lys Ile His Pro Leu Thr Ile Ile Phe Ile Leu Leu
            340                 345                 350
Cys Ala Gly Asn Leu Met Gly Ile Val Gly Val Ile Ile Gly Ile Pro
            355                 360                 365
Leu Tyr Ala Val Leu Lys Val Leu Val Ser His Ile Phe Met Leu Phe
    370                 375                 380
Lys Arg Arg Tyr Asn Arg Tyr Tyr Gly Asn Asp Ala Gly Glu Tyr Ile
385                 390                 395                 400
Ile Thr Glu Glu Glu Lys Gly Ile Lys Gln
                405                 410
```

<210> 4280
<211> 90
<212> PRT
<213> S.epidermidis

<400> 4280
Tyr Met Ala Lys Lys Ser Lys Ile Ala Lys Glu Gln Lys Arg Gln Glu
1   5   10   15
Leu Val Asn Lys Tyr Tyr Glu Leu Arg Lys Glu Leu Lys Ala Lys Gly
                20   25   30
Asp Tyr Glu Ala Leu Arg Lys Leu Pro Arg Asp Ser Ser Pro Thr Arg
            35   40   45
Leu Thr Arg Arg Cys Lys Val Thr Gly Arg Pro Arg Gly Val Leu Arg
        50   55   60
Lys Phe Glu Met Ser Arg Ile Ala Phe Arg Glu His Ala His Lys Gly
65   70   75   80
Gln Ile Pro Gly Val Lys Lys Ser Ser Trp
                85   90

<210> 4281
<211> 175
<212> PRT
<213> S.epidermidis

<400> 4281
Leu Arg Gln Lys Ser Gly His Lys Pro Ala Leu Phe Tyr Leu Pro Lys
1   5   10   15
Lys Glu Ala Cys Met Ser Lys Ile Thr Glu Gln Val Glu Ala Leu Ile
                20   25   30
Gln Pro Val Leu Asn Asp Leu Asn Phe Glu Leu Val Asp Ile Glu Tyr
            35   40   45
Val Lys Glu Gly Lys Asp His Phe Leu Arg Ile Ser Ile Asp Lys Glu
        50   55   60
Gly Gly Val Asp Leu Asn Asp Cys Thr Ile Ala Ser Glu Lys Ile Ser
65   70   75   80
Glu Val Met Asp Glu Asn Asp Pro Ile Pro Glu Met Tyr Tyr Leu Asp
                85   90   95
Val Ala Ser Pro Gly Ala Glu Arg Pro Ile Lys Lys Glu Thr Asp Phe
                100   105   110
Tyr Asn Ala Ile Asn Gln Pro Ile Phe Val Ser Leu Tyr Ala Pro Ile
            115   120   125
Glu Gly Asp Lys Glu Trp Leu Gly Val Leu Lys Ser Val Asn Asp Glu
        130   135   140
Ser Ile Asn Met Glu Val Lys Glu Lys Ala Lys Thr Lys Glu Ile Glu
145   150   155   160
Ile Pro Arg Asn Lys Ile Ala Lys Ala Arg His Ala Val Met Ile
                165   170   175

<210> 4282
<211> 303
<212> PRT
<213> S.epidermidis

<400> 4282
Ile Lys Glu Asn Arg Met Ala Leu Asp Lys Asp Ile Val Gly Ser Ile
1   5   10   15
Glu Phe Leu Glu Val Val Gly Leu Gln Gly Ser Thr Tyr Leu Leu Lys
                20   25   30
Gly Pro Asn Gly Glu Ser Val Lys Leu Asn Gln Ser Glu Val Ala Asp
            35   40   45
Glu Asp Asn Phe Glu Leu Gly Glu Glu Tyr Ser Phe Phe Val Tyr Pro

```
            50                      55                      60
Asn Arg Ser Gly Asp Leu Phe Ala Thr Gln Asn Met Pro Asp Ile Thr
65                      70                      75                      80
Lys Asp Lys Tyr Asp Phe Ala Lys Val Ile Lys Thr Asp Arg Asp Gly
                        85                      90                      95
Ala His Ile Asp Val Gly Leu Pro Arg Glu Val Leu Val Pro Trp Glu
                100                     105                     110
Asp Leu Pro Lys Leu Lys Glu Leu Trp Pro Lys Ala Gly Asp Tyr Leu
                115                     120                     125
Leu Val Thr Leu Arg Ile Asp Ser Thr Asn Gln Met Phe Gly Arg Leu
        130                     135                     140
Ala Ser Glu Thr Ile Val Glu Ser Met Phe Thr Pro Val Asn Asp Asp
145                     150                     155                     160
Ser Lys Gln Asn Glu Tyr Ile Ser Ala Arg Ala Tyr Arg Leu Leu Arg
                165                     170                     175
Val Gly Ser Phe Leu Leu Ser Asn Glu Gly Tyr Lys Ile Phe Val His
                180                     185                     190
Glu Ser Glu Arg Lys His Glu Pro Arg Leu Gly Glu Ala Val Glu Val
                195                     200                     205
Arg Ile Ile Gly His Asn Glu Lys Gly Glu Leu Asn Gly Ser Phe Leu
        210                     215                     220
Pro Leu Ala His Glu Arg Leu Asp Asp Asp Gly Gln Val Ile Phe Asp
225                     230                     235                     240
Leu Leu Val Glu Tyr Asp Gly Glu Leu Pro Phe Trp Asp Lys Ser Ser
                245                     250                     255
Pro Asp Ala Ile Lys Glu Val Phe Asn Met Ser Lys Gly Ser Phe Lys
                260                     265                     270
Arg Ala Ile Gly His Leu Tyr Lys Lys Lys Ile Ile Asn Ile Glu Thr
        275                     280                     285
Gly Lys Ile Thr Leu Thr Lys Lys Gly Trp Ser Arg Val Asp Asp
        290                     295                     300
```

<210> 4283
<211> 463
<212> PRT
<213> S.epidermidis

<400> 4283
```
Lys Gly Arg Lys Ile Met Lys Val Ala Lys Phe Gly Gly Ser Ser Val
1                       5                       10                      15
Ser Thr Ala Glu Gln Ile Lys Lys Val Leu Thr Ile Val Asn Glu Asp
                20                      25                      30
Pro Glu Arg Lys Ile Ile Ile Val Ser Ala Pro Gly Lys Arg His Asn
                35                      40                      45
Asp Asp Ile Lys Thr Thr Asp Leu Leu Ile Arg Leu Tyr Glu Lys Val
        50                      55                      60
Leu Asn Lys Leu Asn Tyr Glu Ser Lys Lys Gln Glu Ile Ile Gln Arg
65                      70                      75                      80
Tyr Ala Asp Ile Val Glu Glu Leu Gly Ile Gly Asn Asp Ile Leu Ile
                85                      90                      95
Thr Ile Asn Asp Thr Leu Glu Glu Tyr Ile Lys His Leu Ser Asp Lys
                100                     105                     110
Pro Asn Arg Leu Tyr Asp Ala Leu Leu Ser Cys Gly Glu Asn Phe Asn
        115                     120                     125
Ala Gln Leu Ile Ala Gln Tyr Asn Asn Ser Gln Gly Ile Pro Thr Arg
        130                     135                     140
```

Tyr Ile Ser Pro Lys Glu Ala Gly Leu Thr Val Thr Asp Leu Pro Gln
145   150   155   160
Gln Ala Gln Ile Leu Asp Ser Ala Tyr Asn Glu Ile Tyr Lys Leu Arg
             165   170   175
Asp Tyr Asp Glu Lys Leu Ile Ile Pro Gly Phe Phe Gly Val Ser Lys
             180   185   190
Gln Asn Tyr Ile Val Thr Phe Pro Arg Gly Gly Ser Asp Ile Thr Gly
             195   200   205
Ala Ile Ile Ala Arg Gly Val Arg Ala Ser Leu Tyr Glu Asn Phe Thr
             210   215   220
Asp Val Ser Gly Ile Tyr Lys Ala Asn Pro Asn Ile Ile Asn Asn Pro
225   230   235   240
Glu Leu Ile Glu Glu Ile Thr Tyr Arg Glu Met Arg Glu Leu Ser Tyr
             245   250   255
Ala Gly Phe Gly Val Phe His Asp Glu Ala Leu Gln Pro Leu Tyr Lys
             260   265   270
Asp Arg Ile Pro Val Val Ile Lys Asn Thr Asn Arg Pro Asn Asp Lys
             275   280   285
Gly Thr Tyr Ile Leu His Asp Arg Glu Ile Asp Ser Lys Asn Val Ile
             290   295   300
Ser Gly Ile Ser Cys Asp Lys Gly Phe Thr Val Ile Asn Ile Lys Lys
305   310   315   320
Tyr Leu Met Asn Arg Leu Val Gly Phe Thr Arg Lys Ile Leu Gly Val
             325   330   335
Leu Glu Glu Phe Asn Ile Ser Phe Asp His Met Pro Ser Gly Ile Asp
             340   345   350
Asn Ile Ser Ile Ile Met Arg Thr Asn Gln Ile Gln Gly Lys Glu Ser
             355   360   365
Gln Val Leu Asn Ala Ile Arg Lys Arg Cys Glu Val Asp Glu Leu Ser
             370   375   380
Ile Asp His Asp Leu Ala Val Leu Met Ile Val Gly Glu Gly Met Asn
385   390   395   400
Gln Val Val Gly Thr Ala Ser Lys Ile Thr His Ala Leu Ser Glu Ser
             405   410   415
Asn Ile Asn Leu Ile Met Ile Asn Gln Gly Ala Ser Glu Ile Ser Met
             420   425   430
Met Phe Gly Ile His Glu Ala Asp Ala Glu Lys Ala Val Leu Ser Thr
             435   440   445
Tyr Glu Phe Cys Tyr Asn Gly Val Cys Leu Lys Asn Leu Cys Lys
             450   455   460

<210> 4284
<211> 95
<212> PRT
<213> S.epidermidis

<400> 4284
Leu Arg Arg Lys Leu Ile Met Ala Ile Ser Gln Gln Arg Lys Asp Glu
1   5   10   15
Leu Ile Lys Glu Tyr Arg Val His Glu Thr Asp Thr Gly Ser Pro Glu
             20   25   30
Val Gln Ile Ala Val Leu Thr Ala Glu Ile Thr Ala Leu Asn Glu His
             35   40   45
Leu Arg Glu His Lys Lys Asp His His Ser Arg Arg Gly Leu Leu Lys
             50   55   60
Met Val Gly Arg Arg Arg His Leu Leu Asn Tyr Leu Arg Ser Lys Asp

```
65                      70                      75                      80
Ile Gln Arg Tyr Arg Glu Leu Ile Lys Ser Leu Gly Ile Arg Arg
                85                      90                      95
```

<210> 4285
<211> 573
<212> PRT
<213> S.epidermidis

```
<400> 4285
Ile Gly Arg Lys Lys Arg Met Lys Gln Ser Lys Val Phe Ile Pro Thr
1               5                       10                      15
Met Arg Glu Val Pro Ala Glu Ala Glu Ala Leu Ser His Arg Leu Leu
                20                      25                      30
Leu Lys Ala Gly Leu Ile Lys Gln Ser Thr Ser Gly Ile Tyr Ser Tyr
                35                      40                      45
Leu Pro Leu Ala Thr Arg Val Leu Asn Asn Ile Ser Lys Ile Ile Arg
        50                      55                      60
Glu Glu Met Glu Ser Ile Asp Ala Val Glu Ile Leu Met Pro Ala Leu
65                      70                      75                      80
Gln Gln Ala Glu Leu Trp Glu Glu Ser Gly Arg Trp Ser Ala Tyr Gly
                85                      90                      95
Pro Glu Leu Met Arg Leu Lys Asp Arg Asn Gly Arg Glu Phe Ala Leu
                100                     105                     110
Gly Pro Thr His Glu Glu Val Val Thr Ser Leu Val Arg Asp Glu Leu
                115                     120                     125
Lys Ser Tyr Lys Gln Leu Pro Leu Thr Leu Phe Gln Ile Gln Ser Lys
        130                     135                     140
Tyr Arg Asp Glu Lys Arg Pro Arg Phe Gly Leu Leu Arg Gly Arg Glu
145                     150                     155                     160
Phe Leu Met Lys Asp Ala Tyr Ser Phe His Ser Asp Glu Ala Ser Leu
                165                     170                     175
Asp Ala Thr Tyr Gln Asp Met Tyr Gln Ala Tyr Ser Arg Ile Phe Lys
                180                     185                     190
Arg Val Gly Ile Asn Ala Arg Pro Val Val Ala Asp Ser Gly Ala Ile
                195                     200                     205
Gly Gly Ser His Thr His Glu Phe Met Ala Leu Ser Glu Ile Gly Glu
        210                     215                     220
Asp Thr Ile Val Tyr Ser Asn Glu Ser Asp Tyr Ala Ala Asn Ile Glu
225                     230                     235                     240
Lys Ala Glu Val Val Tyr His Pro Ser His Lys His Ser Ala Leu Ala
                245                     250                     255
Glu Leu Thr Lys Val Glu Thr Pro Asn Val Lys Thr Ala Gln Glu Val
                260                     265                     270
Ala Glu Tyr Leu Lys Arg Pro Leu Asp Glu Ile Val Lys Thr Met Ile
        275                     280                     285
Phe Lys Ile Asp Gly Glu Phe Ile Met Phe Leu Val Arg Gly His His
        290                     295                     300
Glu Leu Asn Glu Val Lys Leu Lys Ser Tyr Phe Gly Thr Glu His Val
305                     310                     315                     320
Glu Met Ala Thr Pro Asp Glu Ile Val Asn Leu Val Asp Ala Asn Pro
                325                     330                     335
Gly Ser Leu Gly Pro Ile Phe Asp Lys Asp Ile Lys Ile Tyr Ala Asp
                340                     345                     350
Asn Tyr Leu Gln Asp Leu Asn Asn Phe Val Val Gly Ala Asn Glu Asp
        355                     360                     365
```

```
His Tyr His Tyr Ile Asn Val Asn Ile Gly Arg Asp Phe Asp Val Thr
    370                 375             380
Glu Tyr Gly Asp Phe Arg Phe Ile Thr Gln Gly Glu Met Leu Ser Asp
385             390             395                     400
Gly Ser Gly Val Ala Gln Phe Ala Glu Gly Ile Glu Val Gly Gln Val
            405             410             415
Phe Lys Leu Gly Thr Lys Tyr Ser Glu Ser Met Asn Ala Thr Phe Leu
            420             425             430
Asp Asn Gln Gly Lys Ala Gln Pro Leu Ile Met Gly Cys Tyr Gly Ile
            435             440             445
Gly Val Ser Arg Thr Leu Ser Ala Ile Val Glu Gln Asn Asn Asp Glu
    450             455             460
Asn Gly Ile Ile Trp Pro Lys Ser Val Thr Pro Phe Asp Ile His Leu
465             470             475                     480
Ile Thr Ile Asn Pro Lys Lys Asp Asp Gln Arg Thr Leu Gly Asp Gln
            485             490             495
Leu Tyr Gln Lys Leu Met Asp Ser Tyr Asp Val Leu Tyr Asp Asp Arg
            500             505             510
Lys Glu Arg Ala Gly Val Lys Phe Asn Asp Ser Asp Leu Ile Gly Leu
            515             520             525
Pro Val Arg Val Val Val Gly Lys Arg Ala Glu Glu Gly Ile Val Glu
    530             535             540
Val Lys Gln Arg Ile Asn Gly Leu Ser Glu Glu Val Gln Ile Asp Glu
545             550             555                     560
Leu Glu Tyr Tyr Leu Gln Glu Leu Phe Lys Asn Ile Lys
            565             570
```

```
<210> 4286
<211> 326
<212> PRT
<213> S.epidermidis

<400> 4286
Thr Met Gly Lys Ile Lys Glu Leu Glu Thr Ser Leu Ala Asn Lys Ile
1               5               10              15
Ala Ala Gly Glu Val Val Glu Arg Pro Ser Ser Val Val Lys Glu Leu
            20              25              30
Leu Glu Asn Ala Ile Asp Ala Gln Ala Thr Glu Ile Asn Ile Glu Val
            35              40              45
Glu Gln Ser Gly Val Ser Ser Ile Arg Val Val Asp Asn Gly Thr Gly
    50              55              60
Ile Ala Gln Glu Asp Leu Gly Leu Val Phe His Arg His Ala Thr Ser
65              70              75                      80
Lys Ile Val Ala Asp Asp Asp Leu Phe His Ile Arg Thr Leu Gly Phe
            85              90              95
Arg Gly Glu Ala Leu Ala Ser Ile Ser Ser Val Ala Lys Val Thr Leu
            100             105             110
Lys Thr Cys Thr Asp Asn Glu Asn Gly His Glu Ile Tyr Ala Glu Asp
    115             120             125
Gly Lys Ile Ile His Gln Lys Pro Ala Lys Ala Lys Lys Gly Thr Asp
    130             135             140
Ile Gln Val Asp Ser Leu Phe Tyr Asn Thr Pro Ala Arg Leu Lys Tyr
145             150             155                     160
Ile Lys Ser Leu Tyr Thr Glu Leu Gly Lys Ile Thr Asp Ile Val Asn
            165             170             175
Arg Met Ala Met Ser His Pro Glu Ile Arg Ile Ser Leu Val Ser Asp
```

```
                 180                    185                    190
Gly Lys Lys Leu Leu Ser Thr Asn Gly Ser Gly Arg Thr Asn Glu Val
        195                    200                    205
Met Ala Glu Ile Tyr Gly Met Lys Val Ala Lys Asp Leu Val His Ile
        210                    215                    220
Ser Gly Asp Thr Ser Asp Tyr His Leu Glu Gly Phe Val Ala Lys Pro
225                    230                    235                    240
Glu His Ser Arg Ser Asn Lys His Tyr Ile Ser Ile Phe Ile Asn Gly
                245                    250                    255
Arg Tyr Ile Lys Asn Phe Val Leu Asn Lys Ala Ile Leu Glu Gly Tyr
                260                    265                    270
His Thr Leu Leu Thr Ile Gly Arg Phe Pro Ile Cys Tyr Ile Asn Ile
                275                    280                    285
Gln Met Asp Pro Ile Leu Val Asp Val Asn Val His Pro Thr Lys Leu
        290                    295                    300
Glu Val Arg Leu Ser Lys Glu Asp Gln Leu Tyr Asp Leu Ile Val Thr
305                    310                    315                    320
Lys Ile Arg Glu Gly Phe
                325
```

<210> 4287
<211> 164
<212> PRT
<213> S.epidermidis

<400> 4287
```
Val Lys Val Glu Arg Arg Ile Ile Pro Met Ile Tyr Ser Leu Thr Glu
1                   5                    10                     15
Ile Glu Ala Arg Tyr Gln Glu Thr Asp Lys Met Gly Val Ile Tyr His
                20                    25                    30
Gly Asn Tyr Ala Thr Trp Phe Glu Val Ala Arg Thr Asp Tyr Ile Arg
        35                    40                    45
Lys Leu Gly Phe Ser Tyr Ala Ser Met Glu Glu Gln Gly Val Ile Ser
        50                    55                    60
Pro Val Val Asp Leu Lys Val Gln Tyr Lys Lys Ser Ile Tyr Tyr Pro
65                    70                    75                    80
Glu Lys Val Thr Val Lys Thr Trp Val Glu Lys Tyr Ser Arg Leu Arg
                85                    90                    95
Ser Thr Tyr Cys Tyr Lys Val Tyr Asn Glu Asn Gly Glu Leu Ala Thr
                100                   105                   110
Thr Gly Ser Thr Glu Leu Ile Cys Ile Lys Ala Asp Thr Phe Lys Pro
        115                   120                   125
Ile Arg Leu Asp Arg Tyr Phe Pro Glu Trp His Glu Thr Tyr Ser Lys
        130                   135                   140
Val Asn Gln Leu Asn Lys Glu Gly Lys Asp Ala Glu Val Thr Phe Gly
145                   150                   155                   160
Ile Asn His Leu
```

<210> 4288
<211> 82
<212> PRT
<213> S.epidermidis

<400> 4288
```
Gln Arg Val Glu Lys Glu Tyr Ser Pro Ser Leu Met Thr Ser Leu Phe
```

```
1                   5                   10                  15
Thr Glu Ser Asn Pro Leu Thr His Lys Glu Gln Val Val Leu Arg Glu
                20                  25                  30
Ile Gly Asn Gly Leu Ser Ser Lys Glu Ile Ala Ser Lys Leu Tyr Leu
                35                  40                  45
Ser Asn Gly Thr Val Arg Asn Tyr Thr Ser Thr Ile Ile Asp Lys Met
            50                  55                  60
Asn Ser Asp His Arg Phe Glu Ala Trp Lys Lys Ala Asn Glu Lys Gly
65                  70                  75                  80
Trp Ile
```

<210> 4289
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4289

```
Cys Phe Asn Glu Leu Tyr Glu Asn Ala Phe Ile Leu Tyr Ser Tyr Ile
1                   5                   10                  15
Glu Pro Asn Leu Leu Tyr Phe Asp Leu Asn Leu Leu Lys Ile Ile Val
                20                  25                  30
Asn Cys Phe Leu Ala Tyr Val Ala Pro His Val
            35                  40
```

<210> 4290
<211> 261
<212> PRT
<213> S.epidermidis

<400> 4290

```
Arg Val Asn Asp Ser Met Ser Leu Thr Ile Lys Glu Ile Lys Glu Lys
1                   5                   10                  15
Leu Ser Arg Ile Glu Thr Leu Glu Glu Leu His Lys His Glu Ala Asn
                20                  25                  30
Asn Asp Ser Arg Lys Gly Val Ile Asn Ala Ile Lys Ser Arg Glu Lys
            35                  40                  45
Asn Ile Leu Lys Gln Gln Ala Leu Glu Glu His Tyr Leu Ser Met Asn
        50                  55                  60
Gln Tyr Glu Asn Asn Ile Met Ser Ser Asn Arg Asp Ala Leu Ile Cys
65                  70                  75                  80
Gly Ile Asp Glu Val Gly Arg Gly Pro Leu Ala Gly Pro Val Val Ala
                85                  90                  95
Cys Ala Val Ile Leu Glu Lys Asn His His Tyr Ile Gly Leu Asp Asp
                100                 105                 110
Ser Lys Lys Val Ser Pro Lys Asn Arg Ala Arg Leu Asn Gln Asn Leu
            115                 120                 125
Lys Glu Asn Val Tyr Gln Tyr Ala Tyr Gly Ile Ala Ser Ser Val Glu
        130                 135                 140
Ile Asp Glu Leu Asn Ile Tyr Arg Ala Thr Gln Leu Ala Met Leu Arg
145                 150                 155                 160
Ala Ile Asn Gln Leu Asp Val Thr Pro Thr His Leu Leu Ile Asp Ala
            165                 170                 175
Met Thr Leu Asp Ile Asp Ile Pro Gln Thr Ser Ile Ile Lys Gly Asp
        180                 185                 190
Ala Lys Ser Val Ser Ile Ala Ala Ala Ser Ile Met Ala Lys Glu Tyr
```

```
                195                    200                    205
Arg Asp Gln Tyr Met Arg Gln Leu Ser Lys Gln Phe Pro Glu Tyr Gly
        210                    215                    220
Phe Asp Lys Asn Ala Gly Tyr Gly Thr Lys Gln His Leu Lys Ala Ile
225                    230                    235                    240
Asp Gln Val Gly Ile Ile Asn Glu His Arg Gln Ser Phe Glu Pro Ile
                245                    250                    255
Lys Ser Met Met Lys
                260
```

```
<210> 4291
<211> 50
<212> PRT
<213> S.epidermidis
```

```
<400> 4291
Leu Leu Asp Asp Leu Arg Leu Ser Asn Lys Leu Phe Val Thr Ser Leu
1               5                    10                   15
Cys Leu Lys Leu Ser Asn Lys Met Lys Leu Glu Ala Ser Asn Arg Ile
            20                   25                   30
Val Ile Ile Ile Thr Pro Thr Ile Asp Met Arg Gly Ile Asn Ser Leu
        35                   40                   45
Ser Lys
    50
```

```
<210> 4292
<211> 211
<212> PRT
<213> S.epidermidis
```

```
<400> 4292
Phe Asp Cys Glu Ser Ala Cys Tyr Arg Gly Gly Asn Met Phe Val Lys
1               5                    10                   15
Glu Glu Lys Pro Val Asn Lys Ile Val Glu Ile Leu Arg Lys Thr Ser
            20                   25                   30
Ser His Leu Phe Lys Phe His Gly Glu Val Ala Met His Leu Phe Leu
        35                   40                   45
Asn Asp Asp Phe Ile Leu Pro Ser Lys Ile Asp Ile Cys Val Glu Arg
    50                   55                   60
Lys Lys Leu Leu Glu Ile Ile Arg Val Ile Pro Glu Glu Phe Thr Ile
65                   70                   75                   80
His Tyr Tyr Asp Asn Gln Leu Tyr Glu Arg Leu Arg Glu Ser Leu Ser
                85                   90                   95
Leu Ser Asp Val Glu His Val Lys Val Phe Lys Asn Asp Thr Glu Val
            100                  105                  110
Met Thr Ile Phe Val Tyr Asp Val Val Asn Asp Glu Trp Leu Phe Arg
        115                  120                  125
Leu Asp His His Ile Arg Leu Pro Lys Asn Asn Ile Tyr Phe His Ser
    130                  135                  140
Leu Ser Trp Asn Val Asp Tyr Ile Lys Pro Glu Ile Val Leu Met Tyr
145                  150                  155                  160
Asp Leu Met Ser Glu Gln Lys Tyr His Gln Phe Ser Asn Tyr Lys Ala
                165                  170                  175
Val Ile Asp Ser Leu Ser Tyr Tyr Gln Phe Tyr Ile Leu Lys Leu Val
            180                  185                  190
Val Gly Glu Gln Arg Ile Lys Lys Ala Ile Val Asn Ser Ser Thr Lys
```

```
            195                     200                      205
Lys Ile Ser
    210


<210> 4293
<211> 164
<212> PRT
<213> S.epidermidis


<400> 4293
Asn Arg Ser Glu Asn Met Thr Gln Glu Leu Lys Ser Lys Leu Leu Ser
1               5                   10                  15
Phe Phe Lys Phe Ile Phe Ala Thr Ala Leu Phe Ile Phe Val Ile Phe
            20                  25                  30
Thr Leu Tyr Arg Glu Leu Ser His Ile Asn Phe Lys Glu Thr Phe Ile
            35                  40                  45
Gln Phe Gly Lys Ile Asn Arg Leu Trp Leu Val Leu Leu Phe Ala Gly
        50                  55                  60
Gly Gly Leu Ser Leu Ile Leu Leu Ser Leu Tyr Asp Ile Ile Leu Val
65                  70                  75                  80
Lys Ala Leu Lys Leu Lys Met Pro Leu Ile Arg Val Phe Arg Val Ser
                85                  90                  95
Tyr Ile Ile Asn Ala Leu Asn Ser Ile Ile Gly Phe Gly Gly Phe Ile
            100                 105                 110
Gly Ala Gly Val Arg Ala Phe Val Tyr Lys Asn Tyr Thr Asn Asp Thr
            115                 120                 125
Lys Lys Leu Val Gln Tyr Ile Phe Ile Ile Leu Val Ser Met Leu Thr
        130                 135                 140
Gly Leu Ser Leu Leu Ser Ile Leu Val Val Leu Arg Ile Phe Asn Ala
145                 150                 155                 160
Ser Ser His Asp


<210> 4294
<211> 185
<212> PRT
<213> S.epidermidis


<400> 4294
Lys Met Ser Asp Ile Ile Lys Asp Thr Lys Ser Arg Met Gln Lys Ser
1               5                   10                  15
Ile Asp Asn Leu Ser Arg Glu Leu Ala Asn Ile Ser Ala Gly Arg Ala
            20                  25                  30
Asn Ser Asn Leu Leu Asn Gly Val Thr Val Asp Tyr Tyr Gly Ala Pro
            35                  40                  45
Thr Pro Val Gln Gln Leu Ala Ser Ile Asn Val Pro Glu Ala Arg Leu
        50                  55                  60
Leu Val Ile Ser Pro Tyr Asp Lys Ser Ser Val Ala Asp Ile Glu Lys
65                  70                  75                  80
Ala Ile Ile Ala Ala Asn Leu Gly Val Asn Pro Thr Ser Asp Gly Glu
                85                  90                  95
Val Ile Arg Ile Ser Val Pro Ala Leu Thr Glu Glu Arg Arg Lys Glu
            100                 105                 110
Leu Val Lys Glu Val Lys Lys Ile Gly Glu Asp Ala Lys Val Ser Ile
        115                 120                 125
Arg Asn Ile Arg Arg Asp Ile Asn Asp Gln Leu Lys Lys Asp Glu Lys
```

```
        130                    135                    140
Asn Gly Asp Ile Thr Glu Asp Asp Leu Arg Ser Gln Thr Asp Asp Val
145                    150                    155                    160
Gln Lys Ala Thr Asp Asn Ser Ile Lys Glu Ile Asp Gln Leu Val Ala
                    165                    170                    175
Asp Lys Glu Lys Asp Ile Met Ser Val
                180                    185
```

<210> 4295
<211> 57
<212> PRT
<213> S.epidermidis

<400> 4295
```
Lys Lys Arg Leu Gln Leu Lys Lys Phe Asp Val Glu Leu Val Asp Gly
1                   5                    10                    15
Phe Thr Lys Val Ile Leu Ser Phe Ile Arg Met Ser Ile Arg Asn Ile
                20                    25                    30
Ile Lys Val Lys Arg Glu Ile Ala Phe Val Leu Met Leu Met Asn Ile
            35                    40                    45
Lys Lys Val Val Ala Gln Gln Phe Lys
    50                    55
```

<210> 4296
<211> 804
<212> PRT
<213> S.epidermidis

<400> 4296
```
Gly Gly Asn Glu Leu Ser Glu Ile Ile Gln Asp Leu Ser Leu Glu Asp
1                   5                    10                    15
Val Ile Gly Asp Arg Phe Gly Arg Tyr Ser Lys Tyr Ile Ile Gln Glu
                20                    25                    30
Arg Ala Leu Pro Asp Val Arg Asp Gly Leu Lys Pro Val Gln Arg Arg
            35                    40                    45
Ile Leu Phe Ala Met Tyr Ser Ser Gly Asn Thr Tyr Asp Lys Asn Phe
    50                    55                    60
Arg Lys Ser Ala Lys Thr Val Gly Asp Val Ile Gly Gln Tyr His Pro
65                    70                    75                    80
His Gly Asp Ser Ser Val Tyr Asp Ala Met Val Arg Leu Ser Gln Asp
                85                    90                    95
Trp Lys Leu Arg His Val Leu Ile Glu Met His Gly Asn Asn Gly Ser
                100                    105                    110
Ile Asp Asn Asp Pro Pro Ala Ala Met Arg Tyr Thr Glu Ala Lys Leu
            115                    120                    125
Ser Gln Leu Ser Glu Glu Leu Leu Arg Asp Ile Asn Lys Glu Thr Val
    130                    135                    140
Ser Phe Ile Pro Asn Tyr Asp Asp Thr Thr Leu Glu Pro Met Val Leu
145                    150                    155                    160
Pro Ala Arg Phe Pro Asn Leu Leu Ile Asn Gly Ser Thr Gly Ile Ser
                165                    170                    175
Ser Gly Tyr Ala Thr Asp Ile Pro Pro His Asn Leu Ala Glu Val Ile
                180                    185                    190
Gln Gly Thr Leu Lys Tyr Ile Asp Gln Pro Asp Ile Thr Ile Asn Gln
            195                    200                    205
Leu Met Lys Tyr Ile Lys Gly Pro Asp Phe Pro Thr Gly Gly Ile Ile
```

```
                210                        215                        220
Gln Gly Ile Glu Gly Ile Lys Lys Ala Tyr Glu Thr Gly Lys Gly Lys
225                        230                        235                        240
Val Val Val Arg Ser Arg Val Asp Glu Glu Pro Leu Arg Ser Gly Arg
                           245                        250                        255
Lys Gln Leu Ile Val Thr Glu Ile Pro Tyr Glu Val Asn Lys Ser Ser
                260                        265                        270
Leu Val Lys Arg Ile Asp Glu Leu Arg Ala Asp Lys Lys Val Asp Gly
                275                        280                        285
Ile Val Glu Val Arg Asp Glu Thr Asp Arg Thr Gly Leu Arg Ile Ala
                290                        295                        300
Ile Glu Leu Lys Lys Asp Ala Asn Ser Glu Ser Ile Lys Asn Tyr Leu
305                        310                        315                        320
Tyr Lys Asn Ser Asp Leu Gln Ile Ser Tyr Asn Phe Asn Met Val Ala
                           325                        330                        335
Ile Ser Glu Gly Arg Pro Lys Leu Met Gly Leu Arg Glu Ile Ile Glu
                340                        345                        350
Ser Tyr Leu Asn His Gln Ile Glu Val Val Thr Asn Arg Thr Arg Tyr
                355                        360                        365
Asp Leu Glu Gln Ala Glu Lys Arg Met His Ile Val Glu Gly Leu Met
                370                        375                        380
Lys Ala Leu Ser Ile Leu Asp Glu Val Ile Ala Leu Ile Arg Asn Ser
385                        390                        395                        400
Lys Asn Lys Lys Asp Ala Lys Asp Asn Leu Val Ala Glu Tyr Asp Phe
                           405                        410                        415
Thr Glu Ala Gln Ala Glu Ala Ile Val Met Leu Gln Leu Tyr Arg Leu
                420                        425                        430
Thr Asn Thr Asp Ile Glu Ala Leu Lys Lys Glu His Glu Glu Leu Glu
                435                        440                        445
Ala Leu Ile Lys Glu Leu Arg Asn Ile Leu Asp Asn His Glu Ala Leu
                450                        455                        460
Leu Ala Val Ile Lys Asp Glu Leu Asn Glu Ile Lys Lys Lys Phe Lys
465                        470                        475                        480
Val Asp Arg Leu Ser Thr Ile Glu Ala Glu Ile Ser Glu Ile Lys Ile
                           485                        490                        495
Asp Lys Glu Val Met Val Pro Ser Glu Glu Val Ile Leu Ser Leu Thr
                500                        505                        510
Gln His Gly Tyr Ile Lys Arg Thr Ser Thr Arg Ser Phe Asn Ala Ser
                515                        520                        525
Gly Val Thr Glu Ile Gly Leu Lys Asp Gly Asp Arg Leu Leu Lys His
                530                        535                        540
Glu Ser Val Asn Thr Gln Asp Thr Val Leu Val Phe Thr Asn Lys Gly
545                        550                        555                        560
Arg Tyr Leu Phe Ile Pro Val His Lys Leu Ala Asp Ile Arg Trp Lys
                           565                        570                        575
Glu Leu Gly Gln His Ile Ser Gln Ile Val Pro Ile Asp Glu Asp Glu
                580                        585                        590
Glu Val Val Asn Val Tyr Asn Glu Lys Asp Phe Lys Asn Glu Ala Phe
                595                        600                        605
Tyr Ile Met Ala Thr Lys Asn Gly Met Ile Lys Lys Ser Ser Ala Ser
610                        615                        620
Gln Phe Lys Thr Thr Arg Phe Asn Lys Pro Leu Ile Asn Met Lys Val
625                        630                        635                        640
Lys Asp Lys Asp Glu Leu Ile Asn Val Val Arg Leu Glu Ser Asp Gln
                           645                        650                        655
Leu Ile Thr Val Leu Thr His Lys Gly Met Ser Leu Thr Tyr Ser Thr
```

```
                 660                    665                    670
Asn Glu Leu Ser Asp Thr Gly Leu Arg Ala Ala Gly Val Lys Ser Ile
             675                    680                    685
Asn Leu Lys Asp Glu Asp Tyr Val Val Met Thr Glu Asp Val Asn Asp
         690                    695                    700
Ser Asp Ser Ile Ile Met Val Thr Gln Arg Gly Ala Met Lys Arg Ile
705                    710                    715                    720
Asp Phe Asn Val Leu Gln Glu Ala Lys Arg Ala Gln Arg Gly Ile Thr
             725                    730                    735
Leu Leu Lys Glu Leu Lys Lys Lys Pro His Arg Ile Val Ala Gly Ala
             740                    745                    750
Val Val Lys Glu Asn His Thr Lys Tyr Ile Val Phe Ser Gln His His
             755                    760                    765
Glu Glu Tyr Gly Asn Ile Asp Asp Val His Leu Ser Glu Gln Tyr Thr
         770                    775                    780
Asn Gly Ser Phe Ile Ile Asp Thr Asp Asp Phe Gly Glu Val Glu Ser
785                    790                    795                    800
Met Ile Leu Glu
```

```
<210> 4297
<211> 111
<212> PRT
<213> S.epidermidis

<400> 4297
Asn Gly Ile Glu Val Asp Asn Met Val Gly Gln Thr Asn Leu Phe Asp
1               5                    10                   15
Asp Val Ile Lys Lys Glu Glu Arg Phe Val Ile Val Val Gln Ala Leu
             20                   25                   30
Glu Glu Lys Asn Gly Lys Leu Leu Lys Arg Thr Leu Arg Glu Tyr Pro
         35                   40                   45
Ser Leu Glu His Thr Gln Met Asn Asp Leu Phe Ser His Leu Lys Glu
         50                   55                   60
Val Phe Leu Glu Glu Pro Phe Gly Val Asn Gln Ser Ala Tyr Ser Ile
65                   70                   75                   80
Thr Val Tyr Thr Asn Leu Asp Tyr Ala Ala Asp Gln Val Tyr Ala His
             85                   90                   95
Val Lys Arg Tyr Lys Gly Lys His Asp Trp Thr His Thr Ala Lys
         100                  105                  110
```

```
<210> 4298
<211> 675
<212> PRT
<213> S.epidermidis

<400> 4298
Leu Lys Ile Asp Ile Asn Cys Arg Arg Glu Asp Thr Thr Met Phe Asn
1               5                    10                   15
Glu Lys Asp Gln Leu Ala Ile Asp Thr Ile Arg Ala Leu Ser Ile Asp
             20                   25                   30
Ala Ile Glu Lys Ala Asn Ser Gly His Pro Gly Leu Pro Met Gly Ala
         35                   40                   45
Ala Pro Met Ala Tyr Thr Leu Trp Thr Arg His Leu Asn Phe Asn Pro
         50                   55                   60
Gln Ser Lys Asp Phe Phe Asn Arg Asp Arg Phe Ile Leu Ser Ala Gly
```

```
65                      70                      75                      80
His Gly Ser Ala Leu Leu Tyr Ser Leu Leu His Val Ser Gly Ser Leu
                85                      90                      95
Glu Leu Glu Glu Leu Lys Gln Phe Thr Gln Trp Gly Ser Lys Thr Pro
            100                     105                     110
Gly His Pro Glu Tyr Ile His Thr Asp Gly Val Gln Val Thr Thr Gly
            115                     120                     125
Pro Leu Gly Gln Gly Phe Ala Met Ser Val Arg Met Ala Leu Ala Glu
            130                     135                     140
Ser His Leu Ala Gly Lys Phe Asn Lys Asp Gln Phe Asp Ile Val Asn
145                     150                     155                     160
His Tyr Thr Tyr Val Leu Ala Ser Asp Gly Asp Leu Met Glu Gly Ile
                165                     170                     175
Ser His Glu Ala Ala Ser Phe Ala Gly His Asn Gln Leu Asp Lys Leu
                180                     185                     190
Ile Val Leu Tyr Asp Ser Asn Asp Ile Ser Leu Asp Gly Asp Leu Tyr
                195                     200                     205
Lys Ser Phe Ser Glu Asp Thr Lys Gln Arg Phe Glu Ala Tyr Gly Trp
            210                     215                     220
Asn Tyr Ile Leu Val Glu Asn Gly Asn Asp Leu Asp Glu Ile Asp Asn
225                     230                     235                     240
Ala Ile Thr Gln Ala Lys Ser Gln Gln Gly Pro Thr Ile Ile Glu Val
                245                     250                     255
Lys Thr Ile Ile Gly Phe Gly Ser Pro Asn Lys Ala Gly Ser Asn Gly
                260                     265                     270
Val His Gly Ala Pro Leu Gly Glu Glu Glu Arg Ala Leu Thr Phe Lys
                275                     280                     285
Glu Tyr Gly Leu Asp Pro Glu Lys Arg Phe Asn Val Pro Glu Asp Val
            290                     295                     300
Tyr Glu Ile Phe Lys Ser Thr Met Leu Lys Arg Ala Asn Glu Asn Glu
305                     310                     315                     320
Glu Ala Trp Asn Asn Met Leu Lys Asn Tyr Ser Glu Ala Tyr Pro Glu
                325                     330                     335
Leu Ala Glu Glu Phe Lys Leu Ala Met Ser Gly Lys Leu Pro Asn Asn
            340                     345                     350
Tyr Ala Asp Ala Leu Pro Glu Tyr Asp Leu Asn His Ser Gly Ala Ser
            355                     360                     365
Arg Ala Asp Ser Gly Glu Ile Ile Gln Lys Leu Ser Glu Phe Val Pro
            370                     375                     380
Ser Phe Phe Gly Gly Ser Ala Asp Leu Ala Gly Ser Asn Lys Ser Asn
385                     390                     395                     400
Val Lys Glu Ala Lys Asp Tyr Asn Lys Asp Thr Pro Glu Gly Lys Asn
                405                     410                     415
Val Trp Phe Gly Val Arg Glu Phe Ala Met Gly Ala Ala Ile Asn Gly
                420                     425                     430
Met Ala Ala His Gly Gly Leu His Pro Tyr Ala Ala Thr Phe Phe Val
                435                     440                     445
Phe Ser Asp Tyr Leu Lys Pro Ala Leu Arg Leu Ser Ser Ile Met Gly
            450                     455                     460
Leu Asn Ser Thr Phe Ile Phe Thr His Asp Ser Ile Ala Val Gly Glu
465                     470                     475                     480
Asp Gly Pro Thr His Glu Pro Ile Glu Gln Leu Ala Gly Leu Arg Ala
                485                     490                     495
Ile Pro Asn Met Asn Val Ile Arg Pro Ala Asp Gly Asn Glu Thr Arg
            500                     505                     510
Val Ala Trp Glu Val Ala Leu Glu Ser Glu His Thr Pro Thr Ser Leu
```

```
              515                    520                    525
    Val Leu Thr Arg Gln Asn Leu Pro Thr Leu Asp Val Asp Lys Gln Thr
        530                    535                    540
    Val Glu Asn Gly Val Arg Lys Gly Ala Tyr Ile Val Phe Glu Thr Glu
    545                    550                    555                    560
    Gln Gln Leu Glu Tyr Leu Leu Leu Ala Ser Gly Ser Glu Val Asn Leu
                565                    570                    575
    Ala Val Glu Ala Ala Lys Glu Leu Glu Gln Gln Gly Lys Gly Val Arg
                580                    585                    590
    Val Ile Ser Met Pro Asn Trp Tyr Ala Phe Glu Gln Gln Ser Ser Glu
                595                    600                    605
    Tyr Lys Glu Ser Ile Leu Pro Ser Asp Val Thr Lys Arg Ile Ala Ile
        610                    615                    620
    Glu Met Ala Ser Pro Leu Gly Trp His Lys Tyr Val Gly Ile Glu Gly
    625                    630                    635                    640
    Lys Val Ile Gly Ile Asn Ser Phe Gly Ala Ser Ala Pro Gly Asp Leu
                645                    650                    655
    Val Val Glu Lys Tyr Gly Phe Thr Lys Glu Asn Ile Leu Lys Gln Val
                660                    665                    670
    Arg Ser Leu
        675


    <210> 4299
    <211> 232
    <212> PRT
    <213> S.epidermidis


    <400> 4299
    Cys Gln Ile Glu Val Cys Pro Lys Gly Phe Arg Asn Met His Gly Phe
    1                   5                    10                    15
    Gly Ser His Lys Tyr Ser Met Tyr Asn Asp Lys Gly Glu Arg Val Trp
                20                    25                    30
    Val Lys Tyr His Phe Arg Thr Gln Gln Gly Ile Glu Asn Tyr Thr Asp
                35                    40                    45
    Glu Glu Ala Ala Lys Ile Val Gly Met Asp Arg Asp Ser Ser Gln Arg
        50                    55                    60
    Asp Leu Tyr Asn Ala Ile Glu Asn Gly Asp Tyr Pro Lys Trp Lys Met
    65                    70                    75                    80
    Tyr Ile Gln Val Met Thr Glu Glu Gln Ala Lys Asn His Pro Asp Asn
                85                    90                    95
    Pro Phe Asp Leu Thr Lys Val Trp Tyr Lys Lys Asp Tyr Pro Leu Ile
                100                    105                    110
    Glu Val Gly Glu Phe Glu Leu Asn Arg Asn Pro Glu Asn Tyr Phe Leu
                115                    120                    125
    Asp Val Glu Gln Ala Ala Phe Thr Pro Thr Asn Ile Val Pro Gly Leu
        130                    135                    140
    Asp Tyr Ser Pro Asp Lys Met Leu Gln Gly Arg Leu Phe Ser Tyr Gly
    145                    150                    155                    160
    Asp Ala Gln Arg Tyr Arg Leu Gly Val Asn His Trp Gln Ile Pro Val
                165                    170                    175
    Asn Gln Pro Lys Gly Val Gly Val Glu Asn Leu Cys Pro Phe Ser Arg
                180                    185                    190
    Asp Gly Gln Met Arg Phe Leu Asp Asn Asn Gln Gly Gly Gly Pro His
                195                    200                    205
    Tyr Tyr Pro Asn Asn Gln Gly Ile Tyr Glu Ser Gln Pro Glu His Lys
        210                    215                    220
```

Lys Pro Thr Ile Pro Asp Arg Trp
225   230

<210> 4300
<211> 327
<212> PRT
<213> S.epidermidis

<400> 4300
Pro Lys Ser Glu Arg Ala Phe Lys Asp Lys Ile Leu Ile Pro Gln Asn
1   5   10   15
Asp Leu Asn His Ala Pro Lys Lys Asn Lys Val Leu Asp Thr Phe Glu
            20   25   30
Gln Gln Lys Ile Asn Phe Val Lys Gln Gln Ser Gln Ile Gly Glu Thr
            35   40   45
Ser Ala Pro Tyr Val His Asp His Lys Asp Lys Asn His Asp Val Glu
        50   55   60
Ser His Lys Asn Asn Leu Asp Ser Thr Ser Ser Thr Asn Asn Glu Ser
65   70   75   80
Thr Glu Val Ser Asn Glu Leu His Asn Tyr Ile Asp Asp Ser Tyr Leu
                85   90   95
Gln Ser Gln Lys Glu Val Phe Phe Asp Met Glu Gln Asn Thr Ser Asn
            100   105   110
Glu Tyr Glu Ile Ser Asn Gln Gln Ser Asn Asp Ile Lys Gly Thr Val
            115   120   125
Ser Gln Thr Pro His Arg Arg Val Pro Tyr Met Glu Ile Val Gly Gln
        130   135   140
Val His Gly Thr Tyr Ile Ile Ala Gln Asn Glu Asn Gly Met Phe Met
145   150   155   160
Ile Asp Gln His Ala Ala Gln Glu Arg Ile Lys Tyr Glu Tyr Phe Arg
                165   170   175
Glu Lys Ile Gly Glu Val Thr Asn Glu Val Gln Asn Leu Leu Ile Pro
            180   185   190
Leu Thr Phe His Phe Ser Lys Asp Glu Gln Met Ile Ile Asp Gln Tyr
            195   200   205
Lys Asp Glu Leu Asp Lys Val Gly Val His Leu Glu His Phe Gly Gly
        210   215   220
His Asp Tyr Ile Val Asn Ser Tyr Pro Val Trp Phe Pro Lys Glu Glu
225   230   235   240
Ala Glu Glu Ile Ile Lys Asp Met Ile Glu Leu Val Leu Lys His Lys
                245   250   255
Ser Val Asp Val Lys Lys Ile Arg Glu Asp Ala Ala Ile Met Met Ser
            260   265   270
Cys Lys Lys Ser Ile Lys Ala Asn His Tyr Leu Lys Asn Asn Glu Met
            275   280   285
Ala Asp Leu Ile Asp Gln Leu Arg Glu Ala Glu Asp Pro Phe Thr Cys
            290   295   300
Pro His Gly Arg Pro Ile Ile Ile Asn Phe Ser Asn Tyr Glu Leu Glu
305   310   315   320
Lys Leu Phe Lys Arg Val Met
                325

<210> 4301
<211> 690
<212> PRT
<213> S.epidermidis

```
<400> 4301
Thr Leu Ala Asp Asn Leu Val Ile Val Glu Ser Pro Ala Lys Ala Lys
1               5                   10              15
Thr Ile Glu Lys Tyr Leu Gly Lys Arg Tyr Lys Val Ile Ala Ser Met
            20                  25              30
Gly His Val Arg Asp Leu Pro Arg Ser Gln Met Gly Val Asp Thr Glu
        35                  40                  45
Asp Asn Tyr Glu Pro Lys Tyr Ile Thr Ile Arg Gly Lys Gly Pro Val
        50                  55                60
Val Lys Asp Leu Lys Lys His Ala Lys Lys Ala Lys Lys Ile Phe Leu
65                  70                  75                  80
Ala Ser Asp Pro Asp Arg Glu Gly Glu Ala Ile Ala Trp His Leu Ser
                85                  90                  95
Lys Ile Leu Glu Leu Glu Asp Ser Lys Glu Asn Arg Val Val Phe Asn
            100                 105                 110
Glu Ile Thr Lys Asp Ala Val Lys Asp Ser Phe Lys His Pro Arg Gly
            115                 120                 125
Ile Glu Met Asp Leu Val Asp Ala Gln Gln Ala Arg Arg Ile Leu Asp
        130                 135                 140
Arg Leu Val Gly Tyr Asn Ile Ser Pro Val Leu Trp Lys Lys Val Lys
145                 150                 155                 160
Lys Gly Leu Ser Ala Gly Arg Val Gln Ser Val Ala Leu Arg Leu Val
                165                 170                 175
Ile Asp Arg Glu Asn Glu Ile Arg Asn Phe Lys Pro Glu Glu Tyr Trp
            180                 185                 190
Ser Ile Glu Gly Glu Phe Arg Tyr Lys Lys Ser Lys Phe Thr Ala Lys
        195                 200                 205
Phe Leu His Tyr Lys Asn Lys Pro Tyr Lys Leu Asn Asn Lys Asp Asp
        210                 215                 220
Val Gln Arg Ile Thr Glu Ala Leu Asn Gly Asp Gln Phe Glu Ile Thr
225                 230                 235                 240
Asn Val Asn Arg Lys Glu Lys Thr Arg Tyr Pro Ala His Pro Phe Thr
                245                 250                 255
Thr Ser Thr Leu Gln Gln Glu Ala Ala Arg Lys Leu Asn Phe Lys Ala
        260                 265                 270
Arg Lys Thr Met Met Leu Ala Gln Gln Leu Tyr Glu Gly Ile Asp Leu
        275                 280                 285
Lys Arg Gln Gly Thr Val Gly Leu Ile Thr Tyr Met Arg Thr Asp Ser
        290                 295                 300
Thr Arg Ile Ser Thr Ser Ala Lys Ser Glu Ala Gln Gln Tyr Ile Asn
305                 310                 315                 320
Asp Lys Tyr Gly Glu Gln Tyr Val Ser Gln Arg Lys Ser Ser Gly Lys
                325                 330                 335
Gln Gly Asp Gln Asp Ala His Glu Ala Ile Arg Pro Thr Ser Thr Met
        340                 345                 350
Arg Thr Pro Asp Asp Met Lys Ala Phe Leu Thr Arg Asp Gln His Arg
        355                 360                 365
Leu Tyr Lys Leu Ile Trp Glu Arg Phe Val Ala Ser Gln Met Ala Pro
        370                 375                 380
Ala Ile Leu Asp Thr Val Ala Leu Asp Val Thr Gln Asn Asp Ile Lys
385                 390                 395                 400
Phe Arg Ala Asn Gly Gln Thr Ile Lys Phe Lys Gly Phe Met Thr Leu
                405                 410                 415
Tyr Val Glu Ala Lys Asp Asp Lys Glu Asn Asp Lys Glu Asn Lys Leu
            420                 425                 430
```

Pro Gln Leu Asp Lys Gly Asp Lys Val Thr Ala Thr Lys Ile Glu Pro
     435   440   445

Ala Gln His Phe Thr Gln Pro Pro Arg Tyr Thr Glu Ala Arg Leu
450   455   460

Val Lys Thr Leu Glu Glu Leu Lys Ile Gly Arg Pro Ser Thr Tyr Ala
465   470   475   480

Pro Thr Ile Asp Thr Ile Gln Lys Arg Asn Tyr Val Lys Leu Glu Ser
          485   490   495

Lys Arg Phe Ile Pro Thr Glu Leu Gly Glu Ile Val Tyr Glu Gln Val
          500   505   510

Lys Glu Tyr Phe Pro Glu Ile Ile Asp Val Glu Phe Thr Val Asn Met
          515   520   525

Glu Thr Leu Leu Asp Lys Ile Ala Glu Gly Asp Met Asn Trp Arg Lys
          530   535   540

Val Ile Gly Asp Phe Tyr Asn Ser Phe Lys Gln Asp Val Glu Arg Ala
545   550   555   560

Glu Ser Glu Met Glu Lys Ile Glu Ile Lys Asp Glu Pro Ala Gly Glu
          565   570   575

Asp Cys Glu Val Cys Gly Ser Pro Met Val Ile Lys Met Gly Arg Tyr
          580   585   590

Gly Lys Phe Met Ala Cys Ser Asn Phe Pro Asp Cys Arg Asn Thr Lys
          595   600   605

Ala Ile Val Lys Thr Ile Gly Val Thr Cys Pro Lys Cys Asn Glu Gly
          610   615   620

Asp Val Val Glu Arg Lys Ser Lys Lys Asn Arg Ile Phe Tyr Gly Cys
625   630   635   640

Ser Arg Tyr Pro Glu Cys Asp Phe Ile Ser Trp Asp Lys Pro Val Gly
          645   650   655

Arg Asp Cys Pro Lys Cys His His Tyr Leu Val Asn Lys Lys Lys Gly
          660   665   670

Lys Ser Ser Gln Val Val Cys Ser Asn Cys Asp Tyr Glu Glu Glu Val
          675   680   685

Gln Lys
     690

<210> 4302
<211> 97
<212> PRT
<213> S.epidermidis

<400> 4302
Ser Met Gln Asp Thr Leu Met Ser Ile Gln Ile Ile Pro Lys Thr Pro
1   5   10   15

Asn Asn Asn Asp Val Ile Pro Tyr Val Asp Glu Ala Ile Lys Ile Ile
          20   25   30

Asp Asp Ser Gly Leu His Phe Arg Val Gly Pro Leu Glu Thr Thr Val
          35   40   45

Gln Gly Glu Met Ser Glu Cys Leu Ile Leu Ile Gln Lys Leu Asn Asp
     50   55   60

Arg Met Val Glu Leu Glu Cys Pro Ser Ile Ile Ser Gln Val Lys Phe
65   70   75   80

Tyr His Val Pro Glu Gly Ile Glu Ile Glu Thr Leu Thr Gly Lys Tyr
          85   90   95

Asp

```
<210> 4303
<211> 299
<212> PRT
<213> S.epidermidis

<400> 4303
Lys Glu Gln Asp Asn Met Thr His Met Phe Glu Gly Val Gly Val Ala
1               5                   10                  15
Leu Ala Thr Pro Phe Thr Asn Asn Glu Val Asp Phe Asn Ala Leu Glu
            20                  25                  30
Arg His Val Gln Phe Leu Leu Asn Asn Asn Ile Gln Ala Ile Ile Val
            35                  40                  45
Asn Gly Thr Thr Ala Glu Ser Pro Thr Leu Ser Asp Glu Glu Lys Glu
        50                  55                  60
Lys Val Leu Ala Thr Val Val Lys Leu Val Asn His Ser Val Pro Val
65                  70                  75                  80
Ile Ala Gly Thr Gly Thr Asn Asn Thr Tyr Lys Ser Ile Gln Ala Ser
                85                  90                  95
Ile Arg Ala Lys Glu Ile Gly Ala Asp Ala Val Met Leu Ile Thr Pro
            100                 105                 110
Tyr Tyr Asn Lys Thr Asn Gln Arg Gly Leu Ile Gln His Phe Glu Thr
            115                 120                 125
Ile Ala Asn Glu Val Lys Leu Pro Val Ile Leu Tyr Asn Val Pro Ser
        130                 135                 140
Arg Thr Asn Met Thr Ile Glu Pro Glu Thr Val Gly Ile Leu Ser His
145                 150                 155                 160
Asn Pro Tyr Ile Val Ala Leu Lys Asp Ala Thr Asn Asp Phe Asp Tyr
                165                 170                 175
Phe Asp Gln Val Lys Gln Arg Ile Asn Thr Asn Glu Phe Ala Leu Tyr
            180                 185                 190
Ser Gly Asn Asp Asp Asn Val Val Lys Phe Tyr Gln Arg Gly Gly Asn
            195                 200                 205
Gly Val Ile Ser Val Ile Ala Asn Val Ile Pro Gln Glu Phe Gln Tyr
        210                 215                 220
Leu Tyr Asp Gln Arg Gln Asn Glu Thr Asp Ile Thr Asn Tyr Phe Lys
225                 230                 235                 240
Pro Ile Glu Lys Leu Leu Glu Ala Leu Ser Leu Asp Val Asn Pro Ile
                245                 250                 255
Pro Ile Lys Val Leu Thr Ala Tyr Leu Gly Tyr Gly His Tyr Glu Val
            260                 265                 270
Arg Leu Pro Leu Val Pro Leu Glu Glu Ala Gln Cys Lys Gln Val Glu
            275                 280                 285
Arg Ala Phe Glu Gln Phe Lys Ala Gly Glu Gln
        290                 295


<210> 4304
<211> 128
<212> PRT
<213> S.epidermidis

<400> 4304
Arg Met Lys Asp Ala Ile Gln Glu Ala Glu Lys Leu Ala Lys Met Asn
1               5                   10                  15
Lys Asp Gln Lys Asn Gln Tyr Glu Leu Glu Lys Leu Leu Lys Glu Asn
            20                  25                  30
Glu Glu Leu Lys Ala Glu Lys Ala Leu Ser Gln Met Lys Asn Glu Thr
```

```
               35                    40                    45
Arg Ser Met Leu Asn Glu Ser Gly Leu Glu Asn Phe Asp Asp Gln Ile
      50                    55                    60
Val Asn Ile Leu Val Asn Thr Asp Ala Glu Lys Thr Arg Lys Asn Val
65                    70                    75                    80
Glu Ser Phe Thr Asn Leu Leu Asn Gln Met Val Lys Ser Asn Val Glu
                    85                    90                    95
Lys Ala Leu Arg Gln Asp Ser Pro Val Ser Thr Gln Ser Asn Lys Met
              100                   105                   110
Thr Lys Asp Glu Glu Ser Asp Tyr Leu Val Ser Gly Arg Lys Cys Leu
            115                   120                   125
```

<210> 4305
<211> 263
<212> PRT
<213> S.epidermidis

<400> 4305
```
Leu Lys Gly Asp Asn Arg Val Phe Phe Thr Tyr Ile Phe Thr Tyr Phe
1                   5                    10                   15
Tyr Asp Arg Glu Asp Lys Lys Met Ala Gln Thr Ser Lys Tyr Lys Arg
              20                    25                    30
Val Val Leu Lys Leu Ser Gly Glu Ala Leu Ala Gly Asp Lys Gly Phe
            35                    40                    45
Gly Ile Asn Pro Ile Ile Ile Lys Ser Val Ala Gln Gln Val Ala Glu
          50                    55                    60
Val Ala Lys Met Asp Cys Glu Ile Ala Val Ile Val Gly Gly Gly Asn
65                    70                    75                    80
Ile Trp Arg Gly Lys Thr Gly Ser Asp Leu Gly Met Asp Arg Gly Thr
                    85                    90                    95
Ala Asp Tyr Met Gly Met Leu Ala Thr Val Met Asn Ala Leu Ala Leu
              100                   105                   110
Gln Asp Ser Leu Glu Gln Leu Asp Cys Asp Thr Arg Val Leu Thr Ser
            115                   120                   125
Ile Glu Met Lys Gln Val Ala Glu Pro Tyr Ile Arg Arg Arg Ala Ile
          130                   135                   140
Arg His Leu Glu Lys Lys Arg Val Val Ile Phe Ala Ala Gly Ile Gly
145                   150                   155                   160
Asn Pro Tyr Phe Ser Thr Asp Thr Thr Ala Ala Leu Arg Ala Ala Glu
                    165                   170                   175
Val Glu Ala Asp Val Ile Leu Met Gly Lys Asn Asn Val Asp Gly Val
              180                   185                   190
Tyr Ser Ala Asp Pro Lys Val Asp Ala Asn Ala Ile Lys Tyr Glu His
            195                   200                   205
Leu Thr His Ile Gln Met Leu Gln Glu Gly Leu Gln Val Met Asp Ser
          210                   215                   220
Thr Ala Ser Ser Phe Cys Met Asp Asn Asn Ile Pro Leu Asn Val Phe
225                   230                   235                   240
Ser Ile Met Glu Glu Gly Asn Ile Lys Arg Ala Val Met Gly Glu Lys
                    245                   250                   255
Ile Gly Thr Leu Ile Thr Lys
              260
```

<210> 4306
<211> 55
<212> PRT

<213> S.epidermidis

<400> 4306
Thr Ser Leu Asp Met Leu Gln Leu Leu Ile Lys Ser Leu Asn Lys Phe
1   5   10   15
Val Ser Tyr Tyr Thr Thr Asp Cys Thr Tyr Phe His Glu Lys Gln Ile
            20   25   30
Val Asn Asn Thr Ile Lys Lys Ser Arg Leu Asp Leu Lys Leu Cys Phe
            35   40   45
Ile Ile Phe Pro Ala Leu Tyr
        50   55

<210> 4307
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4307
Asn Arg Leu Glu Ser Lys Thr Pro Ile Ile Leu Pro Gly Lys Ala Asn
1   5   10   15
Ala Leu Pro Val Pro Asn Glu Ile Arg Ser Thr Glu Glu Ile Lys Ala
            20   25   30
Cys Ala Lys Pro Tyr His Gly Pro Thr Asn Thr Ala His Asn Thr Phe
            35   40   45
Thr Lys Cys
        50

<210> 4308
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4308
Val Val Leu Leu His Leu Leu Tyr Leu Thr Phe Gly Ser Phe Asn Thr
1   5   10   15
Ile Tyr Ile Ser Asn Leu Asn Lys Tyr Thr Ile Val Val Val Lys Thr
            20   25   30
Lys Ile Leu Ser Cys Lys Thr Phe Ile
            35   40

<210> 4309
<211> 573
<212> PRT
<213> S.epidermidis

<400> 4309
Ile Val Ser Leu Tyr Met Asp Gly Ser Leu Phe Ile Gly Gly Asn Ile
1   5   10   15
Leu Ser Leu Ile Lys Lys Lys Asn Lys Asp Ile Arg Ile Ile Pro Leu
            20   25   30
Gly Gly Val Gly Glu Ile Ala Lys Asn Met Tyr Ile Val Glu Val Asp
            35   40   45
Asp Glu Met Phe Met Leu Asp Ala Gly Leu Met Phe Pro Glu Asp Glu
        50   55   60
Met Leu Gly Val Asp Ile Val Ile Pro Asp Ile Gln Tyr Val Ile Glu
65   70   75   80

```
Asn Lys Glu Arg Leu Lys Gly Ile Phe Leu Thr His Gly His Glu His
                85                      90                  95
Ala Ile Gly Ala Val Ser Tyr Val Leu Glu Gln Ile Asp Ala Pro Val
                100                 105                 110
Tyr Gly Ser Lys Leu Thr Ile Ala Leu Val Lys Glu Ala Met Lys Ala
                115                 120                 125
Arg Asn Ile Lys Lys Lys Val Arg Tyr Tyr Thr Val Asn His Asp Ser
    130                 135                 140
Ile Met Arg Phe Lys Asn Val Asn Val Ser Phe Phe Asn Thr Thr His
145                 150                 155                 160
Ser Ile Pro Asp Ser Leu Gly Val Cys Ile His Thr Ser Tyr Gly Ser
                165                 170                 175
Ile Val Tyr Thr Gly Glu Phe Lys Phe Asp Gln Ser Leu His Gly His
                180                 185                 190
Tyr Ala Pro Asp Leu Lys Arg Met Ala Glu Ile Gly Asp Glu Gly Val
                195                 200                 205
Phe Ala Leu Ile Ser Asp Ser Thr Glu Ala Glu Lys Pro Gly Tyr Asn
        210                 215                 220
Thr Pro Glu Asn Ile Ile Glu His His Met Tyr Asp Ala Phe Ala Lys
225                 230                 235                 240
Val Lys Gly Arg Leu Ile Val Ser Cys Tyr Ala Ser Asn Phe Val Arg
                245                 250                 255
Ile Gln Gln Val Leu Asn Ile Ala Ser Gln Leu Asn Arg Lys Val Ser
                260                 265                 270
Phe Leu Gly Arg Ser Leu Glu Ser Ser Phe Asn Ile Ala Arg Lys Met
                275                 280                 285
Gly Tyr Phe Asp Ile Pro Lys Asp Leu Leu Ile Pro Ile Asn Glu Val
        290                 295                 300
Glu Asn Tyr Pro Lys Asn Glu Val Ile Ile Ile Ala Thr Gly Met Gln
305                 310                 315                 320
Gly Glu Pro Val Glu Ala Leu Ser Gln Met Ala Arg Lys Lys His Lys
                325                 330                 335
Ile Met Asn Ile Glu Glu Gly Asp Ser Ile Phe Leu Ala Ile Thr Ala
                340                 345                 350
Ser Ala Asn Met Glu Val Ile Ile Ala Asp Thr Leu Asn Glu Leu Val
        355                 360                 365
Arg Ala Gly Ala His Ile Ile Pro Asn Asn Lys Lys Ile His Ala Ser
    370                 375                 380
Ser His Gly Cys Met Glu Glu Leu Lys Met Met Leu Asn Ile Met Lys
385                 390                 395                 400
Pro Glu Tyr Phe Val Pro Val Gln Gly Glu Phe Lys Met Gln Ile Ala
                405                 410                 415
His Ala Lys Leu Ala Ala Glu Thr Gly Val Ala Pro Glu Lys Ile Phe
                420                 425                 430
Leu Val Glu Lys Gly Asp Val Ile Ser Tyr Asn Gly Lys Asp Met Ile
        435                 440                 445
Leu Asn Glu Lys Val Gln Ser Gly Asn Ile Leu Ile Asp Gly Ile Gly
    450                 455                 460
Val Gly Asp Val Gly Asn Ile Val Leu Arg Asp Arg His Leu Leu Ala
465                 470                 475                 480
Glu Asp Gly Ile Phe Ile Ala Val Val Thr Leu Asp Pro Lys Asn Arg
                485                 490                 495
Arg Ile Ala Ala Gly Pro Glu Ile Gln Ser Arg Gly Phe Val Tyr Val
        500                 505                 510
Arg Glu Ser Glu Glu Leu Leu Lys Glu Ala Glu Glu Lys Val Arg Lys
        515                 520                 525
```

Ile Val Glu Glu Gly Leu Gln Glu Lys Arg Ile Glu Trp Ser Glu Ile
    530   535   540
Lys Gln Asn Met Arg Asp Gln Ile Ser Lys Leu Leu Phe Glu Ser Thr
545   550   555   560
Lys Arg Arg Pro Met Ile Ile Pro Val Ile Ser Glu Ile
                565   570

<210> 4310
<211> 259
<212> PRT
<213> S.epidermidis

<400> 4310
Lys Leu Lys Leu Leu Thr Ile Lys Asn Leu Asn Ile Asn Asp Lys Glu
1   5   10   15
Gly Gln Ala Ile Ile Lys Asn Val Asp Leu Asn Ile Tyr Asn Gln Ser
                20   25   30
Leu Asn Val Ile Ile Gly Glu Ser Gly Ala Gly Lys Ser Leu Thr Val
                35   40   45
Lys Ala Ile Leu Asn His Leu Pro Thr Gln Leu His Met Ser Phe Asp
        50   55   60
Glu Phe Lys Met Gln Gly Gln Asn Thr Ser Gly Ile Lys Gln Leu Leu
65   70   75   80
Gly Lys His Ile Gly Tyr Ile Ser Gln Asn Tyr Ala Gln Ser Phe Asn
                85   90   95
Glu Tyr Thr Arg Leu Asp Lys Gln Leu Ile Ala Ile Tyr Arg Tyr His
                100   105   110
Phe Asn Val Ser Lys Asp Asn Ala Leu Lys Lys Ile Lys Lys Ala Leu
        115   120   125
Thr Trp Val Asn Leu Asn Asp Glu Ser Ile Ile Asn Lys Tyr Ser Phe
    130   135   140
Gln Leu Ser Gly Gly Gln Leu Glu Arg Val Asn Ile Ala Ser Val Leu
145   150   155   160
Met Leu Asp Pro Glu Leu Ile Ile Ala Asp Glu Pro Val Ala Ser Leu
                165   170   175
Asp Val Val Asn Gly His Gln Ile Met Gln Leu Leu Gln His Ile Val
                180   185   190
Lys Asp His His Asn Thr Val Leu Leu Ile Thr His Asn Met Asn His
        195   200   205
Val Leu Lys Tyr Ala Asp Tyr Phe Asn Val Met Arg Asn Gly Met Met
    210   215   220
Ile Glu Ser Gly Glu Ile Asp Lys Leu Phe Asn His His His Leu His
225   230   235   240
Arg Tyr Thr Glu Gln Leu Leu Asn Tyr Arg Ser Lys Leu Gln Lys Glu
                245   250   255
Asp Asn Ile

<210> 4311
<211> 284
<212> PRT
<213> S.epidermidis

<400> 4311
Gly Ser Pro Cys Phe Leu Gly Gly Met Tyr Met Asn Ala Tyr Leu Ala
1   5   10   15

```
Glu Phe Leu Gly Thr Ala Ile Leu Ile Leu Phe Gly Gly Gly Val Cys
            20                  25                  30
Ala Asn Val Asn Leu Lys Arg Ser Ala Gly Asn Gly Ala Asp Trp Ile
        35                  40                  45
Val Ile Ala Phe Gly Trp Gly Leu Ala Val Thr Met Gly Val Tyr Ala
    50                  55                  60
Val Gly Thr Phe Ser Gly Ala His Leu Asn Pro Ala Val Thr Val Ala
65                  70                  75                      80
Leu Ala Met Asp Gly Gly Phe Ser Trp Ala Gln Val Pro Gly Tyr Ile
            85                  90                  95
Val Cys Gln Met Leu Gly Gly Ile Val Gly Gly Val Phe Val Trp Leu
            100                 105                 110
Met Tyr Leu Pro His Trp Lys Val Thr Glu Asp Pro Ala Val Lys Leu
        115                 120                 125
Gly Val Phe Ser Thr Ala Pro Ala Ile Lys Asn Tyr Phe Ala Asn Phe
    130                 135                 140
Leu Ser Glu Ile Ile Gly Thr Met Ala Leu Thr Leu Gly Ile Leu Phe
145                 150                 155                     160
Ile Gly Val Asn Lys Ile Ala Asp Gly Leu Asn Pro Ile Ile Val Gly
                165                 170                 175
Ser Leu Ile Ile Ala Ile Gly Leu Ser Leu Gly Gly Thr Thr Gly Tyr
            180                 185                 190
Ala Ile Asn Pro Ala Arg Asp Leu Ala Pro Arg Ile Ala His Ala Ile
        195                 200                 205
Leu Pro Ile His Gly Lys Gly Lys Ser Asn Trp Ser Tyr Ala Ile Val
    210                 215                 220
Pro Val Leu Gly Pro Met Ala Gly Gly Met Leu Gly Ala Ile Val Tyr
225                 230                 235                     240
Glu Val Phe Tyr Lys Gln Thr Phe Asn Phe Ser Cys Phe Ile Gly Leu
            245·                250                 255
Ile Val Leu Ile Phe Thr Leu Ile Leu Gly Val Ile Leu Asn Lys Ile
            260                 265                 270
Ser Gln Asn Lys Asn Asn Asp Ile Glu Ser Ile Tyr
        275                 280
```

```
<210> 4312
<211> 44
<212> PRT
<213> S.epidermidis
```

```
<400> 4312
His Glu Asn Cys Lys Lys Tyr Ile Tyr His Tyr Arg Leu Phe Thr Leu
1               5                   10                  15
Gly Gly Cys Phe Asn Glu Lys Val Ala Ile Ser Arg Tyr Tyr Cys Ile
            20                  25                  30
Arg Ser Phe Gly Phe Thr Trp Arg Leu Trp Arg Lys
        35                  40
```

```
<210> 4313
<211> 370
<212> PRT
<213> S.epidermidis
```

```
<400> 4313
Glu Arg Arg Cys Thr Leu Met Glu Ser Arg Ser Trp Gly Val Arg Ile
1               5                   10                  15
```

```
Gly Glu Leu Ser Thr Leu Ile Tyr Leu Ile Phe Pro Ile Leu Ala Ile
            20                  25                  30
Phe Val Asp Lys Arg Gly Asn Phe Leu Thr Tyr Leu Ile Val Cys Thr
            35                  40                  45
Ile Phe Ile Ile Ser Tyr Val Thr Met Ile Ile Phe Tyr Lys Tyr Leu
    50                  55                  60
Ser Asp Ser Ile Leu Tyr Ser Leu Leu Val Ile His Tyr Leu Gly Ile
65                  70                  75                  80
Phe Tyr Phe Val Tyr Ser Val Asn Pro Met Asn Ser Leu Phe Phe Phe
            85                  90                  95
Tyr Ser Ala Phe Ala Leu Pro Phe Ile Phe Asn Val Arg Val Val Ser
            100                 105                 110
Lys Glu Phe Ile Thr Phe Leu Ile Ala Met Ile Ser Cys Leu Ile Leu
            115                 120                 125
Thr Tyr Ile Phe Asn Pro Thr Phe Val Val Pro Leu Ser Ala Phe Tyr
    130                 135                 140
Leu Val Ile Leu Ile Val Ala Val Gly Asn Phe Lys Asn Arg Asp Glu
145                 150                 155                 160
Arg Ile Met Lys Ala Lys Leu Glu Glu Lys Asn Lys Tyr Ile Asn Val
            165                 170                 175
Leu Ile Ala Gln Gln Glu Arg Asn Arg Ile Ser Gln Asp Leu His Asp
            180                 185                 190
Thr Leu Gly His Val Phe Ala Ser Leu Thr Leu Lys Ser Glu Leu Ala
            195                 200                 205
Val Lys Leu Ile Asp Thr Asn Pro Lys Glu Ala Lys Asn Glu Met Gln
            210                 215                 220
Ala Ile Asn Gln Leu Ser Thr Glu Ala Leu Asn Lys Val Arg Leu Ile
225                 230                 235                 240
Ile Asp Asp Leu Lys Ile Gln Ser Phe Glu Asp Glu Ile Ser Ser Leu
            245                 250                 255
Glu His Leu Leu Gln Asn Ala Asn Leu His Phe Lys Phe Asn Asn Lys
            260                 265                 270
Ser Ala Ala Lys Ser Leu Asn Pro Ala Lys Gln Ser Ile Leu Ser Met
    275                 280                 285
Ile Phe Arg Glu Ala Ile Asn Asn Val Ile Lys His Ala His Ala Thr
    290                 295                 300
Glu Val Ile Gly Glu Leu Lys Val His Glu His Gln Ile Ile Leu Lys
305                 310                 315                 320
Ile Lys Asp Asn Gly Val Gly Ile Glu Asn Glu Asp Ala Ser Asn Leu
            325                 330                 335
Lys Ser Ile Lys Glu Arg Val Asp Tyr Leu Asn Gly Lys Leu Ile Val
            340                 345                 350
Gln Ser Asn Asn Gly Thr Leu Ile Ile Val Glu Ile Pro Arg Gly Asp
            355                 360                 365
Leu Leu
    370
```

```
Arg Phe Lys Cys Ile Tyr Phe Ile Asn Ile Tyr Arg Arg Arg Lys Ile
1               5                   10                  15
Met Ser Leu Leu Ser Lys Thr Arg Glu Leu Asn Thr Leu Leu Gln Lys
```

```
                  20                     25                     30
      His Lys Gly Ile Ala Val Asp Phe Lys Asp Val Ala Gln Thr Ile Ser
                  35                     40                     45
      Asn Val Thr Val Thr Asn Val Phe Ile Val Ser Arg Arg Gly Lys Ile
                  50                     55                     60
      Leu Gly Ser Cys Leu Asn Glu Leu Leu Lys Ser Glu Arg Ile Lys Asp
      65                      70                     75                     80
      Met Leu Glu Asp Arg His Ile Pro Arg Glu Tyr Thr Glu Glu Leu Met
                      85                     90                     95
      Asn Val Lys Gln Thr Glu Ser Asn Ile Asp Ile Asp Asn Glu Leu Thr
                  100                    105                    110
      Val Phe Pro Pro Glu Asn Arg Glu Val Phe Leu Asn Ser Arg Thr Thr
                  115                    120                    125
      Ile Phe Pro Ile Leu Gly Gly Gly Glu Arg Leu Gly Thr Leu Val Leu
                  130.                   135                    140
      Gly Arg Val Gln Asp Asp Phe Asn Glu Asn Asp Leu Val Leu Gly Glu
      145                     150                    155                    160
      Tyr Ala Ala Thr Val Ile Gly Met Glu Ile Leu Arg Glu Lys His Asn
                      165                    170                    175
      Glu Val Glu Lys Glu Ala Arg Asp Lys Ala Ala Ile Thr Met Ala Ile
                  180                    185                    190
      Asn Ser Leu Ser Tyr Ser Glu Lys Glu Ala Ile Glu His Ile Phe Glu
                  195                    200                    205
      Glu Leu Gly Gly Thr Glu Gly Leu Leu Ile Ala Ser Lys Val Ala Asp
                  210                    215                    220
      Arg Val Gly Ile Thr Arg Ser Val Ile Val Asn Ala Leu Arg Lys Leu
      225                     230                    235                    240
      Glu Ser Ala Gly Val Ile Glu Ser Arg Ser Leu Gly Met Lys Gly Thr
                  245                    250                    255
      Phe Ile Lys Val Lys Lys Asp Lys Phe Leu Asp Glu Leu Glu Lys Asn
                  260                    265                    270
      Lys


      <210> 4315
      <211> 56
      <212> PRT
      <213> S.epidermidis

      <400> 4315
      Phe Phe Ile Leu Val Tyr Ile Ile Tyr Ile Ile Gly Ser Cys Ile Tyr
      1               5                     10                     15
      Asn His Lys Ser Pro Ser Leu Asn Leu Gln Leu Asn Leu His Gly Ile
                  20                     25                     30
      Tyr Ile Tyr Tyr Leu Gln Ser Phe Leu Leu Phe Thr Phe Leu Val Glu
                  35                     40                     45
      Phe Ile Ile Ala Ile Tyr Ile Cys
          50                     55


      <210> 4316
      <211> 173
      <212> PRT
      <213> S.epidermidis

      <400> 4316
      Ile Ile Ile Leu Glu Glu Leu Ser Thr Met Asn Ile Arg Lys Leu Thr
```

```
1                5                          10                          15
Ile Thr Ala Phe Leu Ile Ala Ile Asn Val Val Leu Ser Ser Leu Ile
            20              25                  30
Val Ile Pro Leu Gly Pro Ile Lys Ala Ala Pro Val Gln His Phe Val
            35              40                  45
Asn Val Leu Cys Ala Val Phe Val Gly Pro Trp Tyr Gly Leu Ala Gln
    50              55                  60
Ala Phe Ile Ser Ser Val Leu Arg Ile Ser Phe Gly Thr Gly Ser Ala
65              70              75                      80
Phe Ala Phe Pro Gly Ser Met Ile Gly Val Leu Leu Ser Ser Leu Phe
            85              90                      95
Tyr Met Tyr Arg Lys His Ile Phe Met Ala Ser Val Gly Glu Val Leu
            100             105             110
Gly Thr Gly Val Ile Gly Ser Leu Met Cys Ile Pro Leu Ala Trp Phe
        115             120             125
Leu Gly Leu Gln Asp Phe Phe Ile Lys Pro Leu Met Leu Met Phe Ile
        130             135             140
Val Ser Ser Phe Ile Gly Ala Leu Ile Ser Tyr Ile Leu Leu Ile Ile
145             150             155                     160
Leu Lys Arg Arg Gly Leu Leu Asp Arg Phe Asn Lys Asn
            165             170
```

<210> 4317
<211> 104
<212> PRT
<213> S.epidermidis

<400> 4317
```
Leu Met Val Arg Thr Asp Leu Thr Ser Phe Arg Ser Gly Asp Thr Leu
1               5                       10                      15
Arg Val His Val Arg Ile Val Glu Gly Ser Arg Glu Arg Ile Gln Val
            20              25                  30
Phe Glu Gly Val Val Ile Lys Arg Arg Gly Gly Gly Ile Ser Glu Thr
        35              40                  45
Phe Thr Val Arg Lys Ile Ser Ser Gly Val Gly Val Glu Arg Thr Phe
    50              55                  60
Pro Leu His Thr Pro Lys Ile Glu Lys Ile Glu Val Lys Arg Arg Gly
65              70              75                      80
Lys Val Arg Arg Ala Lys Leu Tyr Tyr Leu Arg Ser Leu Arg Gly Lys
            85              90                  95
Ala Ala Arg Ile Gln Glu Ile Arg
            100
```

<210> 4318
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4318
```
Tyr Ser Tyr Arg Ile Lys Ile Lys Leu Tyr Ile Asn Lys Glu Pro Gly
1               5                       10                      15
Thr Leu Ile Asn Ile Pro Asp Ser Cys Val Asn Val Lys Thr Ile Ile
            20              25                  30
Asn Tyr Phe Val Ile His Gln Phe Leu Val Ser Ile Pro His Lys Val
        35              40                  45
Leu Leu
```

50

```
<210> 4319
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4319
Ala Thr Asp Arg Ile Tyr Gly Gln Trp Leu Ile Lys Tyr Asn Ile Lys
1               5                   10                  15
Asn Arg Ala Tyr Lys Arg Ser Asp Ile Met Ile Tyr Phe Asn Cys Lys
            20                  25                  30
Ser Thr Ser Phe Ile Ser Phe Lys Ile Ser Ala Val Ser
        35                  40                  45


<210> 4320
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4320
Val His Thr Leu Ile Ser Phe Ser His Ser Ile Cys Met Lys Lys Pro
1               5                   10                  15
Asn Ser Ser Leu Arg Phe Lys Met Met Phe Ile Ile Asp Asn His Ser
            20                  25                  30
Gln Leu Ile Thr Phe Ser Tyr Cys Thr Asn Ile Leu Arg
        35                  40                  45


<210> 4321
<211> 234
<212> PRT
<213> S.epidermidis

<400> 4321
Met Lys Ala Leu Val Ile Gly Gly Ser Gly Thr Ile Gly Arg Ala Ile
1               5                   10                  15
Val Lys Arg Leu Leu Phe Glu Gly Tyr Glu Val Phe Leu His Tyr His
            20                  25                  30
Ser Ala Gln Tyr Ser Asp Leu Ser Asn Gln Phe Lys Asn Ser Lys Val
        35                  40                  45
Thr Phe Ile Gln Cys Asp Leu Thr Lys Asp Ile Glu Leu Glu Asp Tyr
    50                  55                  60
Phe Gly His Ile Asp Glu Leu Asp Cys Leu Ile Tyr Thr Ser Gly Thr
65                  70                  75                  80
Ala Leu Tyr Gly Met Leu Gln Asp Met Ser Asp Cys Asp Ile Asp Asn
                85                  90                  95
Ser Tyr Ala Leu Asn Val Arg Gln Phe Ile Arg Leu Thr Arg Tyr Phe
            100                 105                 110
Ile Asp Ile Leu Arg Gln Ser Asn Asn Gly Arg Ile Ile Val Ile Ser
            115                 120                 125
Ser Ile Trp Gly Glu Thr Gly Ala Ser Leu Glu Thr Ile Tyr Ser Ala
        130                 135                 140
Met Lys Ser Ala Gln Ile Gly Phe Val Lys Ala Leu Ser Gln Glu Leu
145                 150                 155                 160
Ala Leu Thr Ser Val Thr Val Asn Ala Ile Thr Pro Gly Met Val Lys
                165                 170                 175
```

Gly Lys Met Ser Asp Val Trp Ser Lys Asp Glu Leu Ser Asn Ile Val
            180   185   190
Ser Glu Leu Pro Gln Gln Arg Met Ile Asp Pro Ser Glu Val Ala His
            195   200   205
Ala Cys Ala Tyr Leu Cys Ser Thr Met Ser Lys Ser Ile Thr Gly Thr
    210   215   220
Val His Lys Val Asn Gly Gly Trp Tyr Ile
225   230

<210> 4322
<211> 97
<212> PRT
<213> S.epidermidis

<400> 4322
Thr Ser Lys Arg Arg Arg Ile Asn His Glu Arg Glu Val Leu Lys Gln
1   5   10   15
Gln Ala Leu Asn Glu Gly Lys Pro Glu Lys Ile Val Glu Lys Met Val
            20   25   30
Glu Gly Arg Leu Arg Lys Tyr Leu Gln Glu Ile Cys Ala Val Asp Gln
            35   40   45
Asn Phe Val Lys Asn Pro Asp Glu Thr Val Glu Ala Phe Leu Lys Ala
    50   55   60
Lys Gly Gly Lys Leu Thr Asp Phe Val Arg Tyr Glu Val Gly Glu Gly
65   70   75   80
Met Glu Lys Arg Glu Glu Asn Phe Ala Glu Glu Val Lys Gly Gln Met
                85   90   95
Lys

<210> 4323
<211> 445
<212> PRT
<213> S.epidermidis

<400> 4323
Ser Cys Ser Arg Tyr Asn Leu Cys Thr Asn Glu Arg Arg Pro Thr Leu
1   5   10   15
Met Lys Thr His Gln Tyr Glu Leu Ile Asp Glu Lys Val Phe Glu His
            20   25   30
Glu Phe Asp Asn Gly Leu Lys Leu Phe Ile Ile Pro Lys Pro Gly Phe
            35   40   45
Gln Lys Thr Tyr Val Thr Tyr Thr Thr Gln Phe Gly Ser Leu Asp Asn
            50   55   60
His Phe Lys Pro Ile Gly Ser Gln Gln Phe Val Lys Val Pro Asp Gly
65   70   ·   75   80
Val Ala His Phe Leu Glu His Lys Leu Phe Glu Lys Glu Asp Glu Asp
                85   90   95
Leu Phe Thr Ala Phe Ala Glu Glu Asn Ala Gln Ala Asn Ala Phe Thr
            100   105   110
Ser Phe Asp Arg Thr Ser Tyr Leu Phe Ser Ala Thr Ser Asn Ile Glu
            115   120   125
Ser Asn Ile Lys Arg Leu Leu Asn Met Val Glu Thr Pro Tyr Phe Thr
            130   135   140
Glu Glu Thr Val Asn Lys Glu Lys Gly Ile Ile Ala Glu Glu Ile Lys
145   150   155   160

```
Met Tyr Gln Glu Gln Pro Gly Tyr Lys Leu Met Phe Asn Thr Leu Arg
             165             170             175
Ala Met Tyr Ser Lys His Pro Ile Arg Val Asp Ile Ala Gly Ser Val
             180             185             190
Glu Ser Ile Tyr Glu Ile Thr Lys Asp Asp Leu Tyr Leu Cys Tyr Glu
             195             200             205
Thr Phe Tyr His Pro Ser Asn Met Val Leu Phe Val Val Gly Asp Val
             210             215             220
Ser Pro Gln Ser Ile Ile Lys Leu Val Glu Lys His Glu Asn Gln Arg
225                 230             235                 240
Asn Lys Thr Tyr Gln Pro Arg Ile Glu Arg Ala Gln Ile Asp Glu Pro
             245             250             255
Arg Glu Ile Asn Gln Arg Phe Val Ser Glu Lys Met Lys Leu Gln Ser
             260             265             270
Pro Arg Leu Met Leu Gly Phe Lys Asn Glu Pro Leu Asp Glu Ser Ala
             275             280             285
Thr Lys Phe Val Gln Arg Asp Leu Glu Met Thr Phe Phe Tyr Glu Leu
             290             295             300
Val Phe Gly Glu Glu Thr Glu Phe Tyr Gln Gln Leu Leu Asn Lys Asp
305                 310             315                 320
Leu Ile Asp Glu Thr Phe Gly Tyr Gln Phe Val Leu Glu Pro Ser Tyr
             325             330             335
Ser Phe Ser Ile Ile Thr Ser Ala Thr Gln Gln Pro Asp Leu Phe Lys
             340             345             350
Gln Leu Ile Met Asp Glu Leu Arg Lys Tyr Lys Gly Asn Leu Lys Asp
             355             360             365
Gln Glu Ala Phe Asp Leu Leu Lys Lys Gln Phe Ile Gly Glu Phe Ile
             370             375             380
Ser Ser Leu Asn Ser Pro Glu Tyr Ile Ala Asn Gln Tyr Ala Lys Leu
385                 390             395                 400
Tyr Phe Glu Gly Val Ser Val Phe Asp Met Leu Asp Ile Val Glu Asn
             405             410             415
Ile Thr Leu Glu Ser Val Asn Glu Thr Ser Glu Leu Phe Leu Asn Phe
             420             425             430
Asp Gln Leu Val Asp Ser Arg Leu Glu Met Glu Asn Arg
             435             440             445
```

<210> 4324
<211> 54
<212> PRT
<213> S.epidermidis   (

<400> 4324
```
Tyr Ile His Ser Ser Leu Val Gln Phe Met Leu Ser Cys Ser Thr Lys
1             5                 10              15
Pro Asn Phe Thr Lys Asp Gly Val Ser Ser His Leu Pro Leu Thr Phe
             20              25              30
Trp Cys Tyr Leu Asn Phe Ser Tyr Phe Thr Leu Leu Gln Lys Asn His
             35              40              45
Asn Asn Ala Ile Ile Leu
      50
```

<210> 4325
<211> 40
<212> PRT
<213> S.epidermidis

```
<400> 4325
Cys Ser Arg Leu Tyr Leu Trp Met Phe Arg Asp Lys Cys Leu Lys Tyr
1               5                   10                  15
Ser Leu Phe Met Ala Tyr Asp Ser His His Phe Lys His Thr Leu Pro
            20                  25                  30
Gln Arg Ile Met Leu Leu Ile Asn
        35                  40


<210> 4326
<211> 299
<212> PRT
<213> S.epidermidis


<400> 4326
His Lys Ser Arg Gly Val Thr Ile Met Ile Glu Leu Arg His Ile Ser
1               5                   10                  15
Lys Ser Phe Lys Glu His Lys Val Leu Glu Asp Ile Ser Ile Asp Ile
            20                  25                  30
Lys Asn Asn Cys Cys Thr Ala Leu Ile Gly Lys Asn Gly Ala Gly Lys
        35                  40                  45
Ser Thr Leu Ile Asp Ile Ile Val Gly Asn Asn His Tyr Asp Ser Gly
    50                  55                  60
Gln Ile Ala Asp Lys Ser Asn Leu Leu Asn Arg His Lys Met Gly Ile
65                  70                  75                  80
Leu Phe Gln Lys Thr Glu Phe Pro Lys Tyr Ile Lys Val Cys Glu Leu
            85                  90                  95
Leu His Leu Tyr Gln Ser Phe Tyr Gln Thr Phe Ile Ser Phe His Gln
            100                 105                 110
Phe Lys Glu Ile Thr Gln Phe Ser Asp Arg Gln Met Asn Gln Phe Ala
            115                 120                 125
Cys Asn Leu Ser Gly Gly Gln Gln Arg Ile Leu Asp Phe Ala Leu Ala
        130                 135                 140
Leu Val Gly Lys Pro Glu Leu Leu Ile Leu Asp Glu Pro Thr Ser Ala
145                 150                 155                 160
Met Asp Val Glu Met Arg Gln His Phe Trp Asn Val Ile Asp Lys Leu
            165                 170                 175
Lys Met Asn Asn Thr Thr Ile Leu Tyr Thr Ser His Tyr Ile Glu Glu
            180                 185                 190
Val Glu Arg Met Ala Asp Gln Val Met Met Leu Asp Lys Gly Lys Ile
            195                 200                 205
Gln Leu Asp Asp Ser Pro Glu Asn Ile Lys Arg Asn Gln Ser Tyr Ser
        210                 215                 220
Val Ile Arg Ile Pro Cys Lys Tyr Gln Glu Leu Ile Asn Gln Leu Lys
225                 230                 235                 240
His Lys Tyr Glu Ile Glu Leu Ile Lys Asn Arg Tyr Glu Ile Lys Thr
            245                 250                 255
Thr Asp Val Ser Asp Val Leu Gln Leu Leu Lys Gln Tyr His Val Asn
            260                 265                 270
Phe Asn Lys Ile Glu Ile Leu Lys Lys Ser Leu Leu Glu Val Met Phe
        275                 280                 285
Ser Asn Asp Leu Ser Lys Gly Gly Asn Tyr Gln
    290                 295


<210> 4327
<211> 367
```

<212> PRT
<213> S.epidermidis

<400> 4327
Tyr Gln Glu Ser Leu Ser Cys Arg Gly Ser Leu Ile Ile Met Lys Arg
1   5   10   15
Trp Gln Gly Leu Val Lys Glu Phe Lys Glu Tyr Leu Pro Val Asn Gln
            20   25   30
Ser Thr Pro Ala Leu Thr Leu Asn Glu Gly His Thr Pro Leu Ile Tyr
            35   40   45
Cys Glu Asn Leu Ser Gln Lys Leu Asp Ile Glu Leu Tyr Val Lys Tyr
        50   55   60
Glu Gly Ala Asn Pro Thr Gly Ser Phe Lys Asp Arg Gly Met Val Met
65   70   75   80
Ala Val Thr Lys Ala Lys Glu Gln Gly Lys Lys Val Val Ile Cys Ala
            85   90   95
Ser Thr Gly Asn Thr Ser Ala Ser Ala Ala Ala Tyr Ala Ala Arg Ala
            100   105   110
Gly Leu Lys Ala Ile Val Val Ile Pro Glu Gly Lys Ile Ala Leu Gly
            115   120   125
Lys Leu Ser Gln Ala Val Met Tyr Gly Ala Glu Ile Val Ser Ile Glu
        130   135   140
Gly Asn Phe Asp Glu Ala Leu Glu Ile Val Lys Glu Ile Ala Glu Glu
145   150   155   160
Asn Asp Glu Ile Glu Leu Val Asn Ser Val Asn Pro Phe Arg Ile Glu
            165   170   175
Gly Gln Lys Thr Gly Ala Phe Glu Ile Val Glu Gln Leu Asp Gly Gln
            180   185   190
Ala Pro Asp Ile Leu Ala Ile Pro Val Gly Asn Ala Gly Asn Ile Thr
            195   200   205
Ala Tyr Trp Gln Gly Phe Val Glu Tyr His Asn Lys Lys Asn Thr Gln
        210   215   220
Leu Pro Gln Met Phe Gly Phe Gln Ala Glu Gly Ala Ser Pro Ile Val
225   230   235   240
Gln Asn Lys Ile Ile Lys Asn Pro Glu Thr Ile Ala Thr Ala Ile Arg
            245   250   255
Ile Gly Asn Pro Ala Ser Trp Gln Lys Ala Val Asn Ala Leu Asp Glu
            260   265   270
Ser Asn Gly Leu Ile Asp Ser Val Ile Asp Glu Glu Ile Leu Glu Ala
        275   280   285
Tyr Gln Leu Met Thr Thr Asn Glu Gly Val Phe Ser Glu Pro Ala Ser
        290   295   300
Asn Ala Ser Ile Ala Gly Leu Ile Lys Leu His Arg Ser Gly Lys Leu
305   310   315   320
Pro Lys Gly Lys Lys Ile Val Ala Ile Leu Thr Gly Asn Gly Leu Lys
            325   330   335
Asp Pro Asp Thr Ala Ile Ser Leu Leu Asp Asn Pro Ile Gln Pro Leu
            340   345   350
Pro Asn Asn Lys Glu Ser Ile Ile Arg Tyr Ile Lys Gly Ala Ile
        355   360   365

<210> 4328
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4328
Arg Lys Arg Arg Ile Val Cys Asn Cys Phe Ile Asn Leu Arg Gln Thr
1   5   10   15
Lys Leu Ser Gln Val Phe Leu Met Lys Ile Ile Asn Val Ser Gln Leu
            20   25   30
Lys Phe Tyr Tyr His Ile Cys Ile
            35   40

<210> 4329
<211> 424
<212> PRT
<213> S.epidermidis

<400> 4329
Ile Leu Lys Arg Phe Asn Gln Asp Asn Thr Lys Val Arg Val Asn Val
1   5   10   15
Leu Pro Thr Asp Lys Phe Lys Thr Thr Thr Ile Thr Phe Lys Phe Met
            20   25   30
Ala Pro Leu Asn Tyr Lys Thr Ile Thr Ser Arg Ser Ile Leu Ser Lys
            35   40   45
Val Leu Val Arg Ala Thr Gln Gln Trp Pro Thr Asp Lys Thr Leu Asn
        50   55   60
Lys Gln Leu Ser Glu Leu Tyr Gly Ala Tyr Val Asn Ser Phe Val Ser
65   70   75   80
Lys Phe Lys Asp Lys His Val Ile Thr Ile Ser Leu Glu Val Val Asn
                85   90   95
Glu Lys Phe Leu Lys Asp Lys Thr Pro Leu Phe Glu Lys Gly Leu Asp
            100   105   110
Thr Leu Lys Glu Ile Ile Trp Asn Pro Leu Ile Lys Asp Arg Cys Phe
            115   120   125
Asp His Thr Tyr Val Ala Gln Glu Lys Ser Leu Leu Ser Lys Lys Leu
        130   135   140
Glu Ala Met Glu Asp Asn Lys Ala Gln Tyr Ser Phe Leu Gln Leu Met
145   150   155   160
Asn Tyr Met Phe Lys Gln Glu Pro Tyr Arg Tyr Ile Ala Thr Gly Gln
                165   170   175
Leu Glu Gln Ile Pro Gln Val Thr Ser Glu Ser Leu Tyr Asp Thr Tyr
            180   185   190
Leu Ser Met Val Gln Asn Asp Asp Cys Ala Ile Tyr Val Val Gly Asn
            195   200   205
Ile Asn Lys Glu Glu Val Thr Gln Leu Ile Leu Asp Lys Phe Ala Ile
        210   215   220
Lys Pro Phe Tyr Leu Glu Asn Lys Glu Ser Thr Glu Ile Thr Pro Ser
225   230   235   240
Phe Asp Gln Pro Gln Tyr Ile Ile Glu Lys Asp Asp Val Asp Gln Ala
            245   250   255
Lys Leu Asn Leu Gly Tyr Arg Phe Pro Ser Tyr Tyr Gly Lys Ser Asn
            260   265   270
Tyr Tyr Ala Phe Ile Val Leu Asn Met Met Phe Gly Gly Asp Pro Ser
        275   280   285
Ser Val Leu Phe Asn Glu Val Arg Glu Lys Gln Ser Leu Ala Tyr Ser
        290   295   300
Ile His Ser Gln Ile Asp Gly Lys Asn Gly Phe Leu Phe Val Leu Ser
305   310   315   320
Gly Val Ser Ala Glu Lys Tyr Glu Gln Ala Lys Asp Thr Val Ile Lys
                325   330   335

```
Glu Phe Asp Lys Ile Lys Asn Gly Asp Phe Asp Ser Asn Lys Ile Glu
            340                 345                 350
Leu Ala Lys Lys Ile Ile Ile Ser His Arg His Glu Ala Ser Asp Arg
            355             360                 365
Pro Lys Ser Ile Ile Glu Ile Leu His Asn Gln Leu Leu Leu Asn Arg
        370             375                 380
Gln Gln Thr Asp Gln Asp Phe Ile Asn Ala Val Asn Gln Val Thr Lys
385                 390                 395                 400
Lys Asp Val Ile Lys Leu Ala Asn Glu Ala Val Leu Asp Thr Ile Tyr
            405                 410                 415
Val Leu Thr Lys Gly Asp Gln His
            420
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<210> 4330
<211> 388
<212> PRT
<213> S.epidermidis
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```
<400> 4330
Ile Ser Gly Ser Ile Ser Leu Met Asn Ile Ser Ile Val Ala Val Gly
1               5                   10                  15
Ser Glu Leu Leu Leu Gly Gln Ile Ala Asn Thr Asn Gly Gln Tyr Leu
            20                  25                  30
Ser Lys Leu Phe Asn Ser Ile Gly Lys Ser Val Val Glu His Thr Val
            35                  40                  45
Ile Gly Asp Asn Pro Gln Arg Leu Glu Tyr Val Ile Lys Gln Cys Leu
        50                  55                  60
Ser Arg Phe Asp Thr Ile Val Leu Thr Gly Gly Leu Gly Pro Thr Lys
65                  70                  75                  80
Asp Asp Leu Thr Lys His Thr Val Ala Lys Val Leu Gly Lys Asn Leu
            85                  90                  95
Val Thr Asp Glu Ala Ser Leu Asn Phe Ile Lys Asn Tyr Phe Lys Glu
            100                 105                 110
Gln Gly Gln Asp Met Thr Ser Asn Asn Lys Gln Gln Ala Leu Val Ile
            115                 120                 125
Glu Asp Ala Ile Val Leu Pro Asn Lys Asn Gly Met Ala Pro Gly Met
            130                 135                 140
Leu Val Glu Leu Gly Lys Gln Lys Ile Ile Leu Leu Pro Gly Pro Pro
145                 150                 155                 160
Lys Glu Met Gln Pro Met Ala Lys Asn Glu Leu Leu Pro Tyr Leu Met
                165                 170                 175
Asp Lys Asp Glu Val Ile Phe Ser Glu Leu Leu Arg Phe Ala Gly Ile
            180                 185                 190
Gly Glu Ser Lys Leu Glu Thr Leu Leu Ile Asp Leu Ile Asp Asp Gln
            195                 200                 205
Thr Asn Pro Thr Ile Ala Pro Leu Ala Gly Thr His Glu Val Tyr Phe
    210                 215                 220
Arg Leu Thr Ala Asn Ala Glu Ser Lys Glu Arg Cys Gln Leu Leu Ile
225                 230                 235                 240
Lys Pro Ile Arg Asp Glu Ile Leu Asn Arg Val Gly Thr Tyr Tyr Phe
            245                 250                 255
Gly Ser Asp Glu Val Asn Ile Glu Glu Ser Val Ile Asn Ser Ala Lys
            260                 265                 270
Gln Asn Phe Ala Ile Tyr Asp Gly Val Thr Asn Gly Ala Leu Phe Thr
            275                 280                 285
Arg Leu Lys Asn Ala Asp Ser Lys Asn Leu Val Lys Gly Met Leu Pro
```

```
        290                  295                  300
His Ser Asn Gln Phe Ile Asp Val Thr Ser Glu Phe Asn Ala Val Leu
305                  310                  315                  320
Phe Asn Ala Ala Gln Tyr Val Arg Asp Leu Tyr Gln Thr Asp Leu Gly
                325                  330                  335
Ile Val Leu Leu Asn Lys Asp Asn Ile Val Tyr Leu Gly Ile Tyr Asp
                340                  345                  350
Gly Asn Asn Phe Asp Ile Glu Thr Phe Lys Met Ser Gln Ser Arg Asn
             355                  360                  365
Leu Leu Arg Ser Arg Ser Gln Asn Tyr Ala Met Ile Arg Leu Leu Asn
          370                  375                  380
Trp Phe Asn Lys
385


<210> 4331
<211> 195
<212> PRT
<213> S.epidermidis


<400> 4331
Lys Phe Ile Gly Gly Asn Ser Met Ile Leu Ile Ile Asp Asn Tyr Asp
1               5                   10                  15
Ser Phe Thr Tyr Asn Leu Val Asp Ile Val Glu Lys Gln Cys Glu Thr
             20                  25                  30
Ile Val Lys Tyr Pro Asp Asp Thr Asp Ile Cys Asn Leu Lys Gly Ile
          35                  40                  45
Thr Ala Val Ile Ile Ser Pro Gly Pro Gly His Pro Leu Asp Asn Gln
       50                  55                  60
Leu Leu Ile Lys Leu Ile Glu Asn Phe Glu Asn Leu Pro Ile Leu Gly
65                  70                  75                  80
Val Cys Leu Gly Ala Gln Ala Leu Thr Cys Tyr Tyr Gly Gly Asp Val
                85                  90                  95
Ile Gln Gly Ser Cys Val Lys His Gly Lys Val Asp Thr Leu Thr Ile
             100                 105                 110
Val Asn Gln Ser Pro Leu Tyr Lys Gly Ile Lys Ser Ser Phe Lys Val
          115                 120                 125
Met Arg Tyr His Ser Leu Ile Ser Asp Pro Cys Ser Phe Pro Glu Ser
       130                 135                 140
Leu Leu Ile Thr Gly Gln Thr Tyr Asp Ser Ile Gln Ser Phe Gln His
145                 150                 155                 160
Lys Asn Arg Lys His Tyr Gly Ile Gln Phe His Pro Glu Ser Phe Ala
                165                 170                 175
Thr Glu Asn Gly Lys Gln Ile Ile Ile Asn Phe Ile Asn Ile Ala Thr
             180                 185                 190
Arg Gly Ser
          195


<210> 4332
<211> 309
<212> PRT
<213> S.epidermidis


<400> 4332
Gly Lys Asp Gly Ser Thr Lys Met Ser Val Phe Ile Asp Lys Asn Thr
1               5                   10                  15
Lys Val Met Val Gln Gly Ile Thr Gly Ser Thr Ala Leu Phe His Thr
```

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                    20                        25                        30
Lys Gln Met Leu Asp Tyr Gly Thr Gln Ile Val Ala Gly Val Thr Pro
            35                        40                        45
Gly Lys Gly Gly Gln Val Val Glu Gly Val Pro Val Tyr Asn Thr Val
    50                        55                        60
Glu Glu Ala Lys Asn Glu Thr Gly Ala Asn Val Ser Val Val Tyr Val
65                        70                        75                        80
Pro Ala Pro Phe Ala Ala Asp Ser Ile Ile Glu Ala Ala Asp Ala Asp
                85                        90                        95
Leu Asp Met Val Ile Cys Ile Thr Glu His Ile Pro Val Val Asp Met
                100                       105                       110
Val Lys Val Lys Arg Tyr Leu Gln Gly Arg Lys Thr Arg Leu Val Gly
            115                       120                       125
Pro Asn Cys Pro Gly Val Ile Thr Ala Asp Glu Cys Lys Ile Gly Ile
            130                       135                       140
Met Pro Gly Tyr Ile His Lys Lys Gly His Val Gly Val Val Ser Arg
145                       150                       155                       160
Ser Gly Thr Leu Thr Tyr Glu Ala Val His Gln Leu Thr Glu Glu Gly
                165                       170                       175
Ile Gly Gln Thr Thr Ala Val Gly Ile Gly Gly Asp Pro Val Asn Gly
            180                       185                       190
Thr Asn Phe Ile Asp Val Leu Lys Ala Phe Asn Glu Asp Ser Glu Thr
            195                       200                       205
Lys Ala Val Val Met Ile Gly Glu Ile Gly Gly Thr Ala Glu Glu Glu
    210                       215                       220
Ala Ala Gln Trp Ile Lys Glu Asn Met Asn Lys Pro Val Val Gly Phe
225                       230                       235                       240
Ile Gly Gly Gln Thr Ala Pro Pro Gly Lys Arg Met Gly His Ala Gly
                245                       250                       255
Ala Ile Ile Ser Gly Gly Lys Gly Thr Ala Ser Glu Lys Ile Lys Thr
                260                       265                       270
Leu Asn Asp Cys Gly Val Glu Thr Ala Asp Thr Pro Ser Glu Ile Gly
            275                       280                       285
Thr Thr Leu Ile Asp Ala Ala Lys Lys Ala Gly Ile Tyr Glu Glu Leu
    290                       295                       300
Leu Thr Ile Lys Lys
305
```

```
<210> 4333
<211> 424
<212> PRT
<213> S.epidermidis

<400> 4333
Asn Lys Phe Gly Ile Pro Asn Leu Phe Phe Ile Leu Cys Met Ser
1                   5                        10                       15
Pro Leu Ile Ile Gly Gly Leu Lys Leu Asn Arg Ser Val Leu Lys Phe
            20                        25                        30
Gly Gly Ser Ser Val Ser Asp Phe Lys Lys Ile Lys Asn Ile Ala Glu
            35                        40                        45
Met Leu Lys Thr Arg Ile Glu Asp Gly Glu Glu Leu Ile Val Val Val
    50                        55                        60
Ser Ala Met Gly Lys Thr Thr Asp Gln Leu Met Asn Asn Val Ser Ser
65                        70                        75                        80
Leu Thr Ser Thr Pro Lys Asp Gln Glu Leu Ala Leu Leu Leu Thr Thr
                85                        90                        95
```

```
Gly Glu Gln Gln Thr Val Ser Tyr Leu Ser Met Val Leu Asn Asp Ile
            100                 105                 110
Gly Val Asn Ala Lys Ala Met Thr Gly Tyr Gln Ala Gly Ile Lys Thr
            115                 120                 125
Val Gly His His Leu Lys Ser Lys Ile Ala Glu Ile Asn Pro Asn Ile
    130                 135                 140
Phe Asn Glu Ala Phe Lys Asn His Asp Ile Leu Val Val Ala Gly Phe
145                 150                 155                 160
Gln Gly Ile Asn Glu Asp Phe Glu Leu Thr Thr Leu Gly Arg Gly Gly
                165                 170                 175
Ser Asp Thr Thr Ala Val Ala Leu Ala Ala Ser Asn Gln Thr Pro Cys
            180                 185                 190
Glu Ile Tyr Thr Asp Val Asp Gly Val Tyr Ala Thr Asp Pro Arg Ile
            195                 200                 205
His Asn Glu Ala Lys Arg Leu Glu Tyr Val Ser Tyr Glu Glu Met Met
    210                 215                 220
Glu Met Ser Ala Leu Gly Ala Gly Val Leu Glu Thr Arg Ser Val Glu
225                 230                 235                 240
Leu Ala Lys Asn Tyr Asp Ile Pro Leu Tyr Leu Gly Arg Thr Leu Ser
                245                 250                 255
Asn Val Lys Gly Thr Trp Ile Met Ser Lys Ser Asp Leu Leu Glu Lys
                260                 265                 270
Lys Ala Val Thr Gly Val Ala Leu Asp Thr His Met Met His Val Thr
            275                 280                 285
Ile Ser Tyr Pro Leu Pro Asp Asn Gln Leu Leu Thr Gln Leu Phe Thr
            290                 295                 300
Ala Leu Glu Glu Glu Ser Val Asn Val Asp Met Ile Ser Gln Ile Val
305                 310                 315                 320
Asn Leu Glu Gly Leu Gln Leu Ser Phe Ser Ile Lys Asp Ser Asp Ala
                325                 330                 335
His Gln Ile Ser Ser Ile Leu Glu Asn Leu Ser Thr His Phe Ser Ala
                340                 345                 350
Leu Asp Tyr Lys Ile Asn Glu Ala Tyr Val Lys Ile Ser Leu Ile Gly
            355                 360                 365
Ser Gly Met Arg Asp Met Ser Gly Val Ala Ser Lys Ala Phe Thr Thr
    370                 375                 380
Leu Ile Asn Ser Asp Ile Pro Phe Tyr Gln Thr Thr Thr Ser Glu Ile
385                 390                 395                 400
Ser Ile Ser Tyr Val Ile Asp Glu Glu Asn Gly Glu Lys Ala Val Glu
                405                 410                 415
Glu Leu Tyr His Ala Phe Glu Ile
            420
```

```
<210> 4334
<211> 276
<212> PRT
<213> S.epidermidis

<400> 4334
Leu Leu Lys Gly Val Leu Tyr Tyr Met Thr Gln Tyr Lys Met Val Val
1               5                   10                  15
Leu Asp Met Asp Asp Thr Leu Met Asn Ser Asp Asn Lys Leu Ser Ile
            20                  25                  30
Glu Thr Lys Ser Tyr Leu Leu Asp Ile Gln Lys Arg Gly Tyr Tyr Val
            35                  40                  45
Val Leu Ala Ser Gly Arg Pro Thr Glu Gly Met Leu Pro Thr Ala Arg
```

```
              50                      55                      60
Glu Leu Glu Leu Asn Lys Tyr Asn Ser Phe Ile Ile Ser Tyr Asn Gly
65                      70                      75                      80
Gly Lys Thr Ile Asn Met Ala Asn Glu Asn Val Glu Val Asp Gln Pro
                    85                      90                      95
Val Ser Lys Glu Asp Phe Asp Asn Ile Val Asp Tyr Cys Arg Asp Lys
                100                     105                     110
Asn Phe Leu Val Leu Thr Tyr Asp Asn Gly Tyr Ile Ile His Asp Ser
                115                     120                     125
Ser His Glu Tyr Met Asn Ile Glu Ser Gln Leu Thr Gly Leu Pro Met
            130                     135                     140
Asn Arg Val Ala Asp Leu Lys Glu Tyr Ile Asn His Ser Val Pro Lys
145                     150                     155                     160
Val Met Gly Val Asp Tyr Val Gly His Ile Thr Glu Ala Arg Ile Glu
                165                     170                     175
Leu Asp Gly Tyr Phe Asn Asn Asp Ile Asp Val Thr Thr Ser Lys Pro
                180                     185                     190
Phe Phe Leu Glu Phe Met Ala Lys Asn Val Ser Lys Gly Asn Ala Ile
                195                     200                     205
Lys Ala Leu Cys Lys Arg Leu Gln Ile Ser Leu Glu Glu Val Ile Val
            210                     215                     220
Phe Gly Asp Ser Leu Asn Asp Lys Ser Met Phe Glu Val Ala Gly Tyr
225                     230                     235                     240
Ser Val Ala Met Gly Asn Ala Ser Asp Glu Leu Lys Lys Ile Ala Asp
                245                     250                     255
Glu Val Thr Leu Asp Asn Asn Ser Asn Gly Ile Pro Tyr Ala Leu Lys
                260                     265                     270
Glu Leu Leu Val
            275
```

<210> 4335
<211> 603
<212> PRT
<213> S.epidermidis

<400> 4335

```
Met Ser Glu Gly Leu Pro Leu Arg Glu Glu Val Pro Val Lys Glu Thr
1                   5                       10                      15
Trp Asp Leu Lys Asp Leu Phe Thr Ser Asp Gln Ala Phe Tyr Gln Thr
                20                      25                      30
Leu Glu Gln Val Val Gln Met Ser Leu Asp Phe Asn His Thr Tyr Tyr
            35                      40                      45
Gln Lys Leu Asn Asn Ile Glu Thr Ile Glu Lys Ala Leu Asp Glu Tyr
        50                      55                      60
Glu Arg Ile Leu Ile Glu Ile Asp Arg Leu Tyr Asn Tyr Pro Glu Leu
65                      70                      75                      80
Arg Leu Ser Val Asp Thr Ser Asn Glu Glu Ala Gln Lys Val Asn Ala
                85                      90                      95
Lys Leu Asn Thr Thr Ser Gly Lys Leu Ala Gly Leu Leu Ser Phe Val
                100                     105                     110
Asp Ser Glu Ile Leu Glu Leu Pro Asp Glu Ile Ile Ser Glu Leu Arg
                115                     120                     125
Ser Gln Thr Lys Tyr Pro His Phe Ile Lys Gln Leu Gln Asp Arg Lys
            130                     135                     140
Pro Tyr Gln Leu Ser Ala Asp Val Glu Lys Val Leu Ala Thr Leu Thr
145                     150                     155                     160
```

```
Pro Thr Leu Arg Ser Pro Phe Glu Leu Tyr Gly Thr Thr Lys Ser Leu
            165                 170             175
Asp Ile Asn Phe Glu Ser Phe Asp Tyr Glu Gly Val Thr Tyr Pro Leu
            180                 185             190
Asp Tyr Ala Thr Phe Glu Asn Glu Tyr Glu Asp His Pro Ser Pro Glu
            195                 200             205
Phe Arg Arg Lys Ser Phe Arg Ala Phe Ser Asp Ala Leu Arg Gln Tyr
            210                 215             220
Gln His Thr Thr Ala Ala Thr Tyr Asn Met Gln Val Gln Gln Glu Lys
        225                 230             235                 240
Ile Glu Ala Asp Leu Arg Gly Tyr Asp Ser Val Ile Asp Tyr Leu Leu
            245                 250             255
Gln Asp Gln Glu Val Thr Lys Asp Met Phe Asp Arg Gln Ile Asp Val
            260                 265             270
Ile Met Ser Asp Leu Ala Pro Val Met Gln Lys Tyr Ala Lys Ile Ile
            275                 280             285
Gln Arg Val His Asn Leu Asp Lys Met Arg Phe Glu Asp Leu Lys Ile
            290                 295             300
Ser Ile Asp Pro Asn Phe Glu Pro Glu Ile Ser Ile Glu Glu Ser Lys
305             310                 315                 320
Lys Tyr Ile Tyr Gly Ala Leu Lys Val Leu Gly Asp Asp Tyr Val Lys
            325                 330             335
Met Leu Glu Ser Ala Tyr Asp Tyr Arg Trp Ile Asp Phe Ala Gln Asn
            340                 345             350
Lys Gly Lys Asp Thr Gly Ala Tyr Cys Ala Ser Pro Tyr Ile Thr His
            355                 360             365
Ser Tyr Val Phe Ile Ser Trp Thr Gly Lys Met Ala Glu Thr Phe Val
            370                 375             380
Leu Ala His Glu Leu Gly His Ala Gly His Phe Thr Leu Ala Gln Asn
385             390                 395                 400
His Gln Asn Leu Leu Glu Ser Glu Ala Ser Met Tyr Phe Val Glu Ala
            405                 410             415
Pro Ser Thr Met Asn Glu Met Leu Met Ala Asn Tyr Leu Phe Asn Ser
            420                 425             430
Ser Asn Asn Pro Arg Phe Lys Arg Trp Val Ile Gly Ser Ile Leu Ser
            435                 440             445
Arg Thr Tyr Tyr His Asn Met Val Thr His Leu Leu Glu Ala Ala Tyr
450                 455                 460
Gln Arg Glu Val Tyr Ser Arg Val Asp Asn Gly Glu Ser Leu Thr Ala
465                 470                 475                 480
Pro Leu Leu Asn Glu Ile Met Leu Asn Thr Tyr Lys Ala Phe Phe Gly
            485                 490             495
Asp Thr Val Glu Met Thr Asp Gly Val Glu Leu Thr Trp Met Arg Gln
            500                 505             510
Pro His Tyr Tyr Met Gly Leu Tyr Ser Tyr Thr Tyr Ser Ala Gly Leu
            515                 520             525
Thr Ile Gly Thr Val Val Ser Gln Cys Ile Lys Lys Glu Gly Gln Pro
            530                 535             540
Ala Val Asp Arg Trp Leu Lys Thr Leu Gln Ala Gly Gly Ser Gln Ser
545                 550                 555                 560
Pro Ile Glu Leu Ala Gln Ile Ala Gly Val Asp Ile Thr Thr Asp Ala
            565                 570             575
Pro Leu Lys Glu Thr Ile Asn Tyr Ile Ser Asn Leu Val Asp Glu Leu
            580                 585             590
Glu Val Leu Thr Tyr Gln Ile Lys Glu Asn Ser
            595                 600
```

<210> 4336
<211> 474
<212> PRT
<213> S.epidermidis

<400> 4336
Gln Tyr Gly Gly Met Leu Asn Met Asp Thr Asn Gly Ile Lys Leu Thr
1   5   10   15
Pro Lys Asp Ile Val Ser Lys Leu Asn Glu Tyr Ile Val Gly Gln Asn
                20   25   30
Asp Ala Lys Arg Lys Val Ala Ile Ala Leu Arg Asn Arg Tyr Arg Arg
            35   40   45
Ser Leu Leu Lys Glu Glu Glu Lys Gln Glu Ile Ala Pro Lys Asn Ile
        50   55   60
Leu Met Ile Gly Pro Thr Gly Val Gly Lys Thr Glu Ile Ala Arg Arg
65   70   75   80
Met Ala Lys Ile Val Gly Ala Pro Phe Ile Lys Val Glu Ala Thr Lys
                85   90   95
Phe Thr Glu Val Gly Tyr Val Gly Arg Asp Val Glu Ser Met Val Arg
                100   105   110
Asp Leu Val Asp Val Ala Val Arg Leu Val Lys Asp Gly Lys Lys Ser
            115   120   125
Leu Val Lys Asp Glu Ala Thr Lys Lys Ala Asn Asp Lys Leu Val Lys
        130   135   140
Leu Leu Val Pro Ser Leu Lys Lys Lys Ala Ala Gln Gly Asn Asn Pro
145   150   155   160
Leu Glu Asn Leu Phe Gly Gly Ala Ile Pro Asn Phe Gly Gln Asn Gln
                165   170   175
Asp Glu Glu Glu Glu Pro Pro Thr Glu Glu Ile Lys Thr Lys Arg Ser
                180   185   190
Glu Ile Lys Lys Gln Leu Glu Gln Gly Lys Leu Glu Asn Glu Lys Val
            195   200   205
Arg Ile Lys Val Glu Gln Asp Pro Ala Ser Met Gly Met Leu Gly Thr
        210   215   220
Asn Gln Asn Gln Gln Ile Gln Asp Met Met Asn Gln Leu Met Pro Lys
225   230   235   240
Lys Lys Val Glu Arg Glu Val Ser Val Glu Thr Ala Arg Lys Ile Leu
                245   250   255
Ala Asp Asp Phe Ala Asp Glu Leu Ile Asp Gln Glu Thr Ala Asn Gln
            260   265   270
Gln Ala Leu Glu Leu Ala Glu Gln Met Gly Ile Ile Phe Ile Asp Glu
        275   280   285
Ile Asp Lys Val Ala Thr Asn Asn Gln Asn Ser Gly Gln Asp Val Ser
        290   295   300
Arg Gln Gly Val Gln Arg Asp Ile Leu Pro Ile Leu Glu Gly Ser Met
305   310   315   320
Ile Gln Thr Lys Tyr Gly Thr Val Asn Thr Glu His Met Leu Phe Ile
                325   330   335
Gly Ala Gly Ala Phe His Val Ser Lys Pro Ser Asp Leu Ile Pro Glu
            340   345   350
Leu Gln Gly Arg Phe Pro Ile Arg Val Glu Leu Glu Ser Leu Ser Val
        355   360   365
Glu Asp Phe Val Arg Ile Leu Thr Glu Pro Lys Leu Ser Leu Val Lys
        370   375   380
Gln Tyr Glu Ala Leu Leu Gln Thr Glu Glu Val Thr Val Asn Phe Ser

```
385                    390                   395                   400
Glu Asp Ala Ile Gln Arg Leu Ala Glu Ile Ala Tyr Gln Val Asn Gln
                   405                   410                   415
Asp Thr Asp Asn Ile Gly Ala Arg Arg Leu His Thr Ile Leu Glu Lys
               420                   425                   430
Met Leu Glu Asp Leu Ser Phe Glu Ala Pro Ser Met Pro Asn Ala Val
           435                   440                   445
Val Asp Ile Thr Pro Gln Tyr Val Asp Asp Lys Leu Lys Ser Ile Ser
       450                   455                   460
Thr Asn Lys Asp Leu Ser Ala Phe Ile Leu
465                   470
```

<210> 4337
<211> 394
<212> PRT
<213> S.epidermidis

<400> 4337

```
Glu Thr Gly Gly Trp Lys Met Asn Ile His Glu Tyr Gln Gly Lys Glu
1                   5                   10                   15
Ile Phe Arg Ser Met Gly Val Ala Val Pro Glu Gly Arg Val Ala Phe
               20                   25                   30
Thr Ala Glu Glu Ala Val Glu Lys Ala Lys Glu Leu Asn Ser Asp Val
           35                   40                   45
Tyr Val Val Lys Ala Gln Ile His Ala Gly Gly Arg Gly Lys Ala Gly
       50                   55                   60
Gly Val Lys Ile Ala Lys Ser Leu Ser Glu Val Glu Thr Tyr Ala Asn
65                   70                   75                   80
Glu Leu Leu Gly Lys Gln Leu Val Thr His Gln Thr Gly Pro Glu Gly
                   85                   90                   95
Lys Glu Val Lys Arg Leu Tyr Ile Glu Glu Gly Cys Asp Ile Gln Lys
               100                   105                   110
Glu Tyr Tyr Val Gly Phe Val Ile Asp Arg Ala Thr Asp Lys Val Thr
           115                   120                   125
Leu Met Ala Ser Glu Glu Gly Gly Thr Glu Ile Glu Glu Val Ala Ala
       130                   135                   140
Gln Thr Pro Glu Lys Ile Phe Lys Glu Thr Ile Asp Pro Val Val Gly
145                   150                   155                   160
Leu Ser Pro Tyr Gln Ala Arg Arg Ile Ala Phe Asn Ile Asn Ile Pro
                   165                   170                   175
Lys Glu Ser Val Gly Lys Ala Thr Lys Phe Leu Leu Ala Leu Tyr Asn
               180                   185                   190
Val Phe Ile Glu Lys Asp Cys Ser Ile Val Glu Ile Asn Pro Leu Val
           195                   200                   205
Thr Thr Gly Asp Gly Gln Val Leu Ala Leu Asp Ala Lys Leu Asn Phe
       210                   215                   220
Asp Asp Asn Ala Leu Phe Lys His Lys Asp Ile Leu Glu Leu Arg Asp
225                   230                   235                   240
Leu Glu Glu Glu Asp Pro Lys Glu Ile Glu Ala Ser Lys Tyr Asp Leu
                   245                   250                   255
Ser Tyr Ile Ala Leu Asp Gly Asp Ile Gly Cys Met Val Asn Gly Ala
               260                   265                   270
Gly Leu Ala Met Ala Thr Met Asp Thr Ile Asn His Phe Gly Gly Asn
           275                   280                   285
Pro Ala Asn Phe Leu Asp Val Gly Gly Gly Ala Thr Lys Glu Lys Val
       290                   295                   300
```

Thr Glu Ala Phe Lys Ile Ile Leu Gly Asp Asp Asn Val Lys Gly Ile
305   310   315   320
Phe Val Asn Ile Phe Gly Gly Ile Met Lys Cys Asp Val Ile Ala Glu
                325   330   335
Gly Ile Val Ala Ala Val Lys Glu Val Glu Leu Thr Leu Pro Leu Val
                340   345   350
Val Arg Leu Glu Gly Thr Asn Val Glu Arg Gly Lys Ala Ile Leu Asn
            355   360   365
Glu Ser Gly Leu Ala Ile Glu Pro Ala Ala Thr Met Ala Glu Gly Ala
        370   375   380
Gln Lys Ile Val Lys Leu Val Lys Glu Ala
385   390

<210> 4338
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4338
Thr Pro Phe Ile Tyr Asn Lys Ser Val Asp Lys Ser Leu Leu Tyr His
1   5   10   15
Ile Phe Ser Val Ile Met Tyr Gly Val Tyr Ser Ile Pro Ile Phe Ser
                20   25   30
Tyr Lys Ile Leu Arg Ala Leu Asn Thr Met Ala Cys
        35   40

<210> 4339
<211> 119
<212> PRT
<213> S.epidermidis

<400> 4339
Ile Leu Leu Ile Gly Ala Arg Ala Met Thr Ile Phe Asp Met Pro Asn
1   5   10   15
Tyr Leu Trp Ile Thr Ile Leu Gly Met Ile Leu Leu Thr Val Phe Tyr
                20   25   30
Thr Leu Val Leu Asn Lys Trp Phe Gln Ser Ala Ile Ile Thr Phe Val
            35   40   45
Val Leu Ala Val Leu Ala Phe Phe Ile Pro Asn Phe Gln Asn Ile Ser
        50   55   60
Tyr Gln Pro Leu Leu Gly Tyr Ala Gly Phe Leu Gly Ile Met Ser Leu
65   70   75   80
Ile Ile Ser Phe Leu Ile Trp Tyr Phe Ser Arg Asn Trp Arg Lys Asn
                85   90   95
Arg Arg Lys Ile Lys Leu Glu Lys Glu Ile Arg Lys Tyr Asp Asp Glu
            100   105   110
Glu Ser Leu Arg Arg His Lys
        115

<210> 4340
<211> 332
<212> PRT
<213> S.epidermidis

<400> 4340
Leu Phe Ile Met Thr Arg Leu Ala Val Ala Gly Ala Thr Gly Leu Val

```
1               5                       10                      15
Gly Thr Lys Met Leu Glu Thr Leu Asp Arg Lys Gln Ile Pro Phe Asp
            20                      25                  30
Glu Leu Val Leu Phe Ser Ser Ala Arg Ser Ala Gly Lys Lys Val Glu
        35                      40                  45
Phe Gln Gly Gln Leu Tyr Thr Val Gln Glu Leu Thr Asp Glu Ala Ala
    50                      55                  60
Ser Glu His Phe Asp Tyr Val Leu Met Ser Ala Gly Gly Ser Thr Ser
65                      70                  75                  80
Glu His Phe Ala Pro Leu Phe Glu Ala Ala Gly Ala Ile Val Ile Asp
                85                      90                  95
Asn Ser Ser Gln Trp Arg Met Ala Glu Asp Val Asp Leu Ile Val Pro
            100                     105                 110
Glu Val Asn Glu Pro Gln Phe Thr Arg Gly Ile Ile Ala Asn Pro Asn
        115                     120                 125
Cys Ser Thr Ile Gln Ser Val Val Pro Leu Lys Ile Leu Gln Asp Ala
    130                     135                 140
Tyr Gly Leu Lys Arg Val Ala Tyr Thr Thr Tyr Gln Ala Val Ser Gly
145                     150                     155                 160
Ser Gly Val Lys Gly Lys Arg Asp Leu Ala Glu Gly Ala Asn Gly Lys
                165                     170                 175
Glu Pro Glu Ala Tyr Pro Tyr Pro Ile Tyr Asn Asn Val Leu Pro His
            180                     185                 190
Ile Asp Val Phe Leu Glu Asn Gly Tyr Thr Lys Glu Glu Gln Lys Met
            195                     200                 205
Ile Asp Glu Thr Lys Lys Ile Leu Asn Asp Gln Asp Leu Lys Val Thr
            210                     215                 220
Ala Thr Cys Val Arg Val Pro Val Gln Asp Ser His Ser Ile Glu Ile
225                     230                     235                 240
Asp Val Thr Leu Asn Gln Asp Thr Thr Val Lys Glu Ile Gln Glu Leu
                245                     250                 255
Phe Ala Gln Asp Gln Arg Val Val Leu Val Asp Asn Pro Ser Lys Asn
            260                     265                 270
Glu Tyr Pro Leu Ala Ile His Ser Thr Gly Lys Asp Glu Val Phe Val
            275                     280                 285
Gly Arg Ile Arg Arg Asp Asp Ser Leu Glu Asn Thr Phe His Val Trp
            290                     295                 300
Cys Thr Ser Asp Asn Leu Leu Lys Gly Ala Ala Leu Asn Ala Val Gln
305                     310                     315                 320
Val Leu Glu Gln Ile Leu Thr Leu Lys Gly Ala Arg
                325                     330
```

<210> 4341
<211> 422
<212> PRT
<213> S.epidermidis

<400> 4341
```
Met Gly Val Met Lys Met Lys Phe Thr Asn Leu Thr Ala Lys Glu Phe
1               5                       10                      15
Ser Asp Phe Thr Asp Arg Met Thr Tyr Ser His Phe Thr Gln Met Glu
            20                      25                  30
Gly Asn Tyr Glu Leu Lys Val Ala Glu Gly Thr Glu Ser His Leu Val
        35                      40                  45
Gly Ile Lys Asn Asn Asp Asn Glu Val Ile Ala Ala Cys Leu Leu Thr
    50                      55                  60
```

```
Ala Val Pro Val Met Lys Ile Phe Lys Tyr Phe Tyr Ser Asn Arg Gly
65                  70                  75                      80
Pro Val Ile Asp Tyr Asn Asn Lys Glu Leu Val His Phe Phe Phe Asn
                85                  90                  95
Glu Leu Ser Lys Tyr Val Lys Lys Tyr Asn Cys Leu Tyr Leu Arg Val
            100                 105                 110
Asp Pro Tyr Leu Pro Tyr Gln Tyr Leu Asn His Glu Gly Glu Ile Thr
            115             .       120                 125
Gly Asn Ala Gly His Asp Trp Ile Phe Asp Glu Leu Glu Ser Leu Gly
            130                 135                 140
Tyr Lys His Glu Gly Phe His Lys Gly Phe Asp Pro Val Leu Gln Ile
145                 150                 155                     160
Arg Tyr His Ser Val Leu Asn Leu Ala Asn Lys Ser Ala Asn Asp Val
                165                 170                 175
Leu Lys Asn Met Asp Gly Leu Arg Lys Arg Asn Thr Lys Lys Val Lys
                180                 185                 190
Lys Asn Gly Val Lys Val Arg Phe Leu Ser Glu Glu Glu Leu Pro Ile
            195                 200                 205
Phe Arg Ser Phe Met Glu Asp Thr Ser Glu Thr Lys Asp Phe Ala Asp
    210                 215                 220
Arg Glu Asp Ser Phe Tyr Tyr Asn Arg Phe Lys His Tyr Lys Asp Arg
225                 230                 235                     240
Val Leu Val Pro Leu Ala Tyr Ile Asn Phe Asp Glu Tyr Ile Glu Glu
                245                 250                 255
Leu Asn Asn Glu Arg Asn Val Leu Asn Lys Asp Tyr Asn Lys Ala Leu
                260                 265                 270
Lys Asp Ile Glu Lys Arg Pro Glu Asn Lys Lys Ala His Asn Lys Lys
            275                 280                 285
Glu Asn Leu Glu Gln Gln Leu Asp Ala Asn Gln Gln Lys Ile Asn Glu
    290                 295         ·       300
Ala Lys Asn Leu Lys Gln Glu His Gly Asn Glu Leu Pro Ile Ser Ala
305                 310                 315                     320
Gly Phe Phe Ile Ile Asn Pro Phe Glu Val Val Tyr Tyr Ala Gly Gly
                325                 330                 335
Thr Ser Asn Arg Tyr Arg His Phe Ala Gly Ser Tyr Ala Val Gln Trp
                340                 345                 350
Lys Met Ile Asn Tyr Ala Ile Glu His Gly Ile Asn Arg Tyr Asn Phe
                355                 360                 365
Tyr Gly Ile Ser Gly Asp Phe Ser Glu Asp Ala Glu Asp Ala Gly Val
    370                 375                 380
Val Lys Phe Lys Lys Gly Tyr Asp Ala Asp Val Ile Glu Tyr Val Gly
385                 390                 395                     400
Asp Phe Ile Lys Pro Ile Asn Lys Pro Met Tyr Asn Ile Tyr Arg Thr
                405                 410                 415
Leu Lys Lys Leu Lys Lys
            420
```

```
<210> 4342
<211> 263
<212> PRT
<213> S.epidermidis
```

```
<400> 4342
Val Met Thr Ile Leu Asn Glu Ile Ile Glu Tyr Lys Lys Thr Leu Leu
1               5                   10                  15       .
Glu Arg Lys Tyr Tyr Asp Lys Lys Leu Glu Ile Leu Gln Asp Asn Gly
```

```
                 20                        25                        30
Asn Val Lys Arg Arg Lys Leu Ile Asp Ser Leu Asn Tyr Asp Arg Thr
             35                        40                        45
Leu Ser Val Ile Ala Glu Ile Lys Ser Lys Ser Pro Ser Val Pro Gln
         50                        55                        60
Leu Pro Gln Arg Asp Leu Val Gln Gln Val Lys Asp Tyr Gln Lys Tyr
65                        70                        75                        80
Gly Ala Asn Ala Ile Ser Ile Leu Thr Asp Glu Lys Tyr Phe Gly Gly
                 85                        90                        95
Ser Phe Glu Arg Leu Asn Gln Leu Ser Lys Ile Thr Ser Leu Pro Val
             100                       105                       110
Leu Cys Lys Asp Phe Ile Ile Asp Lys Ile Gln Ile Asp Val Ala Lys
         115                       120                       125
Arg Ala Gly Ala Ser Ile Ile Leu Leu Ile Val Asn Ile Leu Ser Asp
         130                       135                       140
Asp Gln Leu Lys Glu Leu Tyr Ser Tyr Ala Thr Asn His Asn Leu Glu
145                       150                       155                       160
Ala Leu Val Glu Val His Thr Ile Arg Glu Leu Glu Arg Ala His Gln
                 165                       170                       175
Ile Asn Pro Lys Ile Ile Gly Val Asn Asn Arg Asp Leu Lys Arg Phe
             180                       185                       190
Glu Thr Asp Val Leu His Thr Asn Lys Leu Leu Lys Phe Lys Lys Ser
             195                       200                       205
Asn Cys Cys Tyr Ile Ser Glu Ser Gly Ile His Thr Lys Glu Asp Val
         210                       215                       220
Glu Lys Ile Val Asp Ser Ser Ile Asp Gly Leu Leu Val Gly Glu Ala
225                       230                       235                       240
Leu Met Lys Thr Asn Asp Leu Ser Gln Phe Leu Pro Ser Leu Lys Leu
             245                       250                       255
Lys Lys Asn Leu Tyr Asp Ser
             260
```

<210> 4343
<211> 134
<212> PRT
<213> S.epidermidis

<400> 4343
```
Asn Ile Tyr Met Leu Tyr Asn Gln Lys Tyr Ile Leu Lys Glu Gly Leu
1               5                        10                        15
Cys Phe Met Leu Lys Glu Phe Lys Glu Phe Ala Leu Lys Gly Asn Val
             20                        25                        30
Leu Asp Leu Ala Ile Ala Val Val Met Gly Ala Ala Phe Asn Lys Ile
             35                        40                        45
Val Thr Ser Leu Val Gln Tyr Ile Ile Met Pro Leu Ile Gly Lys Leu
         50                        55                        60
Phe Gly Ser Val Asn Phe Ala Glu Asp Trp Ser Phe Trp Gly Ile Lys
65                        70                        75                        80
Tyr Gly Leu Phe Ile Gln Ser Ile Ile Asp Phe Ile Ile Ile Ala Phe
                 85                        90                        95
Ala Leu Phe Ile Phe Val Lys Ile Ala Asn Thr Val Met Lys Lys Glu
             100                       105                       110
Glu Lys Glu Glu Glu Val Glu Glu Asn Thr Val Leu Leu Thr Glu Ile
             115                       120                       125
Arg Asp Leu Leu Lys Lys
         130
```

<210> 4344
<211> 498
<212> PRT
<213> S.epidermidis

<400> 4344

```
Ile Tyr Tyr Ile Leu Leu Ile Lys Val Val Pro Arg Val Ser Val Leu
1               5                   10                  15
Ile Thr Lys Glu Ala Asp Phe Phe Arg Lys Arg Arg Lys Ser Met Asp
            20                  25                  30
Ile Val Tyr Lys Lys Val Asn Ala Gln Ile Thr Pro Glu Ala Leu Ala
        35                  40                  45
Lys Leu Lys Gln Lys Lys Ile Ile Phe Glu Ser Thr Asn Gln Gln Lys
    50                  55                  60
Leu Lys Gly Arg Tyr Ser Ile Val Val Phe Asp His Tyr Gly Lys Ile
65                  70                  75                  80
Thr Leu Asp Asn Ser Gln Leu Leu Ile Lys Leu Asp Asn His Cys Glu
                85                  90                  95
Ile Val Lys Asn Gln Pro Tyr Gln Arg Leu Lys Glu Phe Val Asp Lys
            100                 105                 110
Tyr Tyr Phe Glu Ile Lys Asp Lys Tyr Leu Lys Asp Leu Pro Phe Ile
        115                 120                 125
Ser Gly Phe Ile Gly Thr Cys Ser Phe Asp Leu Val Arg His Glu Phe
        130                 135                 140
Lys Lys Leu Gln Asp Ile Lys Leu Glu Asp His Gln Thr His Asp Val
145                 150                 155                 160
Gln Phe Tyr Leu Val Glu Asp Val Phe Val Phe Asp His Tyr Lys Asp
                165                 170                 175
Glu Leu Tyr Ile Ile Ala Ser Asn Leu Phe Ser Asp Arg Thr Lys Glu
                180                 185                 190
Arg Leu Lys Glu Ser Ile Glu Arg Lys Ile Glu Asp Leu Lys Asn Ile
        195                 200                 205
His Phe Ser Val Glu Asp Ile Asn Tyr Lys Ser Ile Pro Arg His Ile
    210                 215                 220
Thr Thr Asn Ile Ser Glu Gln Gln Phe Val Gln Thr Ile Arg Ile Leu
225                 230                 235                 240
Lys Lys Lys Ile Thr Glu Gly Asp Met Phe Gln Val Val Pro Ser Arg
                245                 250                 255
Ile Tyr Ser Tyr Lys His His Phe Gln His Asn Leu His Gln Leu Thr
        260                 265                 270
Phe Gln Leu Tyr Gln Asn Leu Lys Arg Gln Asn Pro Ser Pro Tyr Met
    275                 280                 285
Tyr Tyr Ile Asn Lys Asp Val Pro Ile Val Ile Gly Ser Ser Pro Glu
    290                 295                 300
Ser Phe Val Lys Val Lys Asp Gly Lys Val Tyr Thr Asn Pro Ile Ala
305                 310                 315                 320
Gly Thr Ile Lys Arg Gly Gln Asn Lys Lys Glu Asp Glu Asn Asn Glu
            325                 330                 335
Lys Thr Leu Met Lys Asp Glu Lys Glu Leu Ser Glu His Arg Met Leu
        340                 345                 350
Val Asp Leu Gly Arg Asn Asp Ile His Arg Ile Ser Lys Thr Gly Thr
        355                 360                 365
Ser Gln Ile Thr Lys Leu Met Thr Ile Glu Arg Tyr Glu His Val Met
    370                 375                 380
His Ile Val Ser Glu Val Ile Gly Glu Leu Lys Pro His Leu Ser Pro
```

```
385                        390                        395                        400
Met Ser Val Ile Ala Ser Leu Leu Pro Thr Gly Thr Val Ser Gly Ala
                    405                        410                        415
Pro Lys Leu Arg Ala Ile Gln Arg Ile Tyr Glu Ser Tyr Pro Tyr Lys
                    420                        425                        430
Arg Gly Ile Tyr Ser Gly Gly Val Gly Tyr Ile Asn Cys Asn His His
                    435                        440                        445
Leu Asp Phe Ala Leu Ala Ile Arg Thr Met Ile Ile Asp Glu Glu Lys
                    450                        455                        460
Val Ser Val Glu Ala Gly Cys Gly Val Val Tyr Asp Ser Ile Pro Glu
465                        470                        475                        480
Lys Glu Leu Glu Glu Thr Lys Leu Lys Ala Lys Ser Leu Leu Glu Val
                    485                        490                        495
Thr Pro
```

```
<210> 4345
<211> 1362
<212> PRT
<213> S.epidermidis
```

```
<400> 4345
Gln Leu Ile Phe Gln Leu Lys Ile Pro Thr Ile Lys Met Ser Phe Ala
1                   5                        10                         15
Leu Lys Tyr Phe Gly His Cys Ile Asp Gln Thr Arg Leu Ser Pro Lys
                    20                       25                         30
Val Lys Gly Gln Leu Lys Gln Lys Lys Leu Ile Met Ser Gly Asn Val
              35                       40                       45
Leu Lys Val Leu Val Ser Asn Asp Ile Glu Arg Asn His Phe Asp Arg
        50                       55                       60
Ala Cys Asn Gly Ser Leu Val Lys Ala Phe Arg Gln Cys Gly Phe Glu
65                       70                       75                       80
Ile Asp Lys Val Val Phe Glu Thr Asp Ser Thr Asn His Asp Asp Asp
                    85                       90                       95
Leu Gly Ser Leu Glu Ala His Ile Pro Gln Glu Asp Glu Gln Ser Ala
              100                      105                      110
Arg Glu Ala Thr Glu Lys Leu Glu Lys Met Lys Ala Glu Lys Ala Lys
        115                      120                      125
Gln Gln Asp Asn Asn Glu Ser Thr Val Glu Lys Cys Gln Ile Gly Lys
        130                      135                      140
Pro Ile Gln Ile Glu Asn Ile Lys Pro Ile Glu Ser Ile Ile Glu Glu
145                      150                      155                      160
Glu Phe Lys Val Ala Ile Glu Gly Val Ile Phe Asp Ile Asn Leu Lys
                    165                      170                      175
Glu Leu Lys Ser Gly Arg His Ile Val Glu Leu Lys Val Thr Asp Tyr
              180                      185                      190
Thr Asp Ser Leu Val Leu Lys Met Phe Thr Arg Lys Asn Lys Asp Asp
              195                      200                      205
Leu Asp His Phe Lys Ala Leu Ser Val Gly Lys Trp Val Arg Ala Gln
        210                      215                      220
Gly Arg Ile Glu Glu Asp Thr Phe Val Arg Asp Leu Val Met Met Met
225                      230                      235                      240
Ser Asp Ile Glu Glu Ile Lys Lys Thr Pro Lys Gln Asp Lys Ala Glu
                    245                      250                      255
Asp Lys Arg Val Glu Phe His Leu His Thr Ser Met Ser Gln Met Asp
              260                      265                      270
```

```
Gly Ile Pro Asn Ile Ser Ala Tyr Val Glu Gln Ala Ala Lys Trp Gly
        275                 280             285
His Gln Ala Leu Ala Val Thr Asp His Asn Val Val Gln Ala Phe Pro
        290                 295             300
Asp Ala His Asn Ala Ala Glu Lys His Gly Ile Lys Met Ile Tyr Gly
305             310             315                 320
Met Glu Gly Met Leu Val Asp Asp Gly Val Pro Ile Ala Tyr Lys Pro
            325             330                 335
Thr Asp Arg Asn Leu Lys Asp Ala Thr Tyr Val Val Phe Asp Val Glu
        340             345             350
Thr Thr Gly Leu Ser Asn Gln Tyr Asp Lys Ile Ile Glu Leu Ala Ala
        355             360             365
Val Lys Val His Asn Gly Glu Ile Ile Asp Lys Phe Glu Arg Phe Ser
370             375             380
Asn Pro His Glu Arg Leu Ser Glu Thr Ile Ile Asn Leu Thr His Ile
385             390             395             400
Thr Asp Asp Met Leu Thr Asp Ala Pro Glu Ile Glu Glu Val Leu Thr
            405             410             415
Glu Phe Lys Glu Trp Val Gly Asp Ala Ile Phe Val Ala His Asn Ala
            420             425             430
Ser Phe Asp Met Gly Phe Ile Asp Thr Gly Tyr Glu Arg Leu Gly Phe
            435             440             445
Gly Pro Ser Thr Asn Gly Val Ile Asp Thr Leu Glu Leu Ser Arg Thr
        450             455             460
Ile Asn Thr Glu Tyr Gly Lys His Gly Leu Asn Phe Leu Ala Lys Lys
465             470             475             480
Tyr Gly Val Glu Leu Thr Gln His His Arg Ala Ile Tyr Asp Thr Glu
            485             490             495
Ala Thr Ala Tyr Ile Phe Ile Lys Met Val Gln Gln Met Lys Glu Leu
            500             505             510
Gly Val Asn Asn His Leu Glu Ile Asn Lys Lys Leu Thr Asn Glu Asp
        515             520             525
Ala Tyr Lys Arg Ala Arg Pro Ser His Val Thr Leu Ile Val Gln Asn
        530             535             540
Gln Glu Gly Leu Lys Asn Leu Phe Lys Ile Val Ser Ala Ser Leu Val
545             550             555             560
Lys Tyr Tyr Tyr Arg Thr Pro Arg Ile Pro Arg Ser Leu Leu Asn Glu
            565             570             575
Tyr Arg Glu Gly Ile Leu Ile Gly Thr Ala Cys Asp Glu Gly Glu Leu
            580             585             590
Phe Thr Ala Val Met Gln Lys Asp Gln Ser Glu Val Glu Lys Ile Ala
            595             600             605
Lys Phe Tyr Asp Phe Ile Glu Val Gln Pro Pro Ala Leu Tyr Gln Asp
        610             615             620
Leu Met Asp Arg Glu Leu Ile Arg Asp Asn Glu Thr Leu Thr Gln Ile
625             630             635             640
Tyr Lys Arg Leu Ile Asp Ala Gly Lys Ser Ala Asn Ile Pro Val Ile
            645             650             655
Ala Thr Gly Asn Ala His Tyr Leu Tyr Glu His Asp Ala Ile Ala Arg
            660             665             670
Lys Ile Leu Ile Ala Ser Gln Pro Gly Asn Pro Leu Asn Arg Ser Thr
        675             680             685
Leu Pro Glu Ala His Phe Arg Thr Thr Asp Glu Met Leu Asp Asp Phe
        690             695             700
His Phe Leu Gly Glu Glu Lys Ala Tyr Glu Ile Val Val Thr Asn Thr
705             710             715             720
```

```
Asn Glu Leu Ala Asn Lys Ile Glu Lys Val Val Pro Ile Lys Asp Lys
                725                 730                 735
Leu Phe Thr Pro Arg Met Asp Gly Ala Asn Glu Glu Ile Arg Glu Leu
                740                 745                 750
Ser Tyr Ser Asn Ala Lys Lys Leu Tyr Gly Glu Asp Leu Pro Gln Ile
                755                 760                 765
Val Ile Asp Arg Leu Glu Lys Glu Leu Asp Ser Ile Ile Gly Asn Gly
    770                 775                 780
Phe Ser Val Ile Tyr Leu Ile Ser Gln Arg Leu Val Lys Lys Ser Leu
785                 790                 795                 800
Asp Asp Gly Tyr Leu Val Gly Ser Arg Gly Ser Val Gly Ser Ser Phe
                805                 810                 815
Val Ala Thr Met Thr Glu Ile Thr Glu Val Asn Pro Leu Pro Pro His
                820                 825                 830
Tyr Ile Cys Ser His Cys Lys Thr Ser Glu Phe Phe Asp Asp Gly Ser
                835                 840                 845
Val Gly Ser Gly Phe Asp Leu Pro Asp Lys Lys Cys Pro Thr Cys Gly
    850                 855                 860
Asn Glu Leu Ile Lys Glu Gly Gln Asp Ile Pro Phe Glu Thr Phe Leu
865                 870                 875                 880
Gly Phe Lys Gly Asp Lys Val Pro Asp Ile Asp Leu Asn Phe Ser Gly
                885                 890                 895
Glu Tyr Gln Pro Asn Ala His Asn Tyr Thr Lys Val Leu Phe Gly Glu
                900                 905                 910
Asp Lys Val Phe Arg Ala Gly Thr Ile Gly Thr Val Ala Glu Lys Thr
                915                 920                 925
Ala Phe Gly Phe Val Lys Gly Tyr Leu Asn Asp Gln Gly Ile His Lys
    930                 935                 940
Arg Gly Ala Glu Ile Asp Arg Leu Val Lys Gly Cys Thr Gly Val Lys
945                 950                 955                 960
Arg Thr Thr Gly Gln His Pro Gly Gly Ile Ile Val Val Pro Asp Tyr
                965                 970                 975
Met Asp Ile Tyr Asp Phe Thr Pro Ile Gln Phe Pro Ala Asp Asp Gln
                980                 985                 990
Ser Ala Ala Trp Met Thr Thr His Phe Asp Phe His Ser Ile His Asp
    ·995                1000                1005
Asn Val Leu Lys Leu Asp Ile Leu Gly His Asp Asp Pro Thr Met Ile
    1010                1015                1020
Arg Met Leu Gln Asp Leu Ser Gly Ile Asp Pro Lys Thr Ile Pro Val
1025                1030                1035                1040
Asp Asp Lys Glu Thr Met Gln Ile Phe Ser Gly Pro Glu Ser Leu Gly
                1045                1050                1055
Val Thr Glu Asp Glu Ile Leu Cys Lys Thr Gly Thr Phe Gly Val Pro
                1060                1065                1070
Glu Phe Gly Thr Gly Phe Val Arg Gln Met Leu Glu Asp Thr Lys Pro
                1075                1080                1085
Thr Thr Phe Ser Glu Leu Val Gln Ile Ser Gly Leu Ser His Gly Thr
    1090                1095                1100
Asp Val Trp Leu Gly Asn Ala Gln Glu Leu Ile Arg Gln Gly Ile Cys
1105                1110                1115                1120
Asp Leu Ser Ser Val Ile Gly Cys Arg Asp Asp Ile Met Val Tyr Leu
                1125                1130                1135
Met Tyr Ala Gly Leu Glu Pro Ser Met Ala Phe Lys Thr Met Glu Phe
                1140                1145                1150
Val Arg Lys Gly Arg Gly Leu Thr Asp Glu Met Val Glu Ala Met Lys
    1155                1160                1165
```

```
Glu Asn Asn Val Pro Asp Trp Tyr Leu Asp Ser Cys Arg Lys Ile Lys
    1170                1175                1180
Tyr Met Phe Pro Lys Ala His Ala Ala Ala Tyr Val Leu Met Ala Val
1185                1190                1195                1200
Arg Ile Ala Tyr Phe Lys Val His His Pro Leu Tyr Tyr Tyr Ala Ala
                1205                1210                1215
Tyr Phe Thr Ile Arg Ala Ser Asp Phe Asp Leu Ile Thr Met Ile Lys
                1220                1225                1230
Asp Lys Thr Ser Ile Arg Asn Thr Val Lys Asp Met Tyr Ser Arg Tyr
                1235                1240                1245
Met Asp Leu Gly Lys Lys Glu Lys Asp Val Leu Thr Val Leu Glu Ile
    1250                1255                1260
Met Asn Glu Met Ala His Arg Gly Phe Arg Leu Gln Pro Ile Ser Leu
1265                1270                1275                1280
Glu Lys Ser Gln Ala Phe Asp Phe Ile Ile Glu Gly Asp Thr Leu Ile
                1285                1290                1295
Pro Pro Phe Ile Ser Val Pro Gly Leu Gly Glu Asn Val Ala Gln Arg
                1300                1305                1310
Ile Val Glu Ala Arg Glu Glu Gly Pro Phe Leu Ser Lys Glu Asp Leu
                1315                1320                1325
Asn Lys Lys Ala Gly Leu Ser Gln Lys Val Ile Asp Tyr Leu Asp Glu
    1330                1335                1340
Leu Gly Ser Leu Pro Asp Leu Pro Asp Lys Ala Gln Leu Ser Ile Phe
1345                1350                1355                1360
Asp Met
```

<210> 4346
<211> 53
<212> PRT
<213> S.epidermidis

<400> 4346
```
Leu Thr Tyr Met Phe Thr Leu Met Ile Lys Leu Lys Phe Glu Ser Pro
1               5                   10                  15
Phe His Leu Leu Ser Cys Ala Asn Leu His Leu Pro Leu Ala Phe Cys
            20                  25                  30
Leu Leu Gln Asn Ile Met Ile Thr Leu Ser Ile Lys Leu Ser Asp Phe
        35                  40                  45
Ser Asn Tyr Leu Val
    50
```

<210> 4347
<211> 504
<212> PRT
<213> S.epidermidis

<400> 4347
```
Arg Ser His Ile Pro Met Glu Lys Tyr Ile Leu Ser Ile Asp Gln Gly
1               5                   10                  15
Thr Thr Ser Ser Arg Ala Ile Leu Phe Asn Lys Glu Gly Glu Ile Lys
            20                  25                  30
Gly Val Ser Gln Arg Glu Phe Lys Gln His Phe Pro His Pro Gly Trp
        35                  40                  45
Val Glu His Asp Ala Asn Glu Ile Trp Thr Ser Val Leu Ser Val Met
    50                  55                  60
```

```
Ala Glu Leu Leu Asn Glu Asn Asn Ile Asn Ala Asn Gln Ile Glu Gly
65              70              75                      80
Ile Gly Ile Thr Asn Gln Arg Glu Thr Thr Val Val Trp Asp Lys Asn
                85              90              95
Thr Gly Arg Pro Ile Tyr His Ala Ile Val Trp Gln Ser Arg Gln Thr
            100             105             110
Gln Asp Ile Cys Thr Asn Leu Lys Glu Gln Gly Tyr Glu Glu Thr Phe
        115             120             125
Arg Glu Lys Thr Gly Leu Leu Leu Asp Pro Tyr Phe Ala Gly Thr Lys
    130             135             140
Val Lys Trp Ile Leu Asp His Val Glu Gly Ala Arg Glu Lys Ala Glu
145             150             155                     160
Asn Gly Asp Leu Leu Phe Gly Thr Ile Asp Ser Trp Leu Val Trp Lys
                165             170             175
Leu Ser Gly Arg Thr Ala His Ile Thr Asp Tyr Thr Asn Ala Ser Arg
            180             185             190
Thr Leu Met Phe Asn Ile Tyr Asp Leu Lys Trp Asp Asp Glu Leu Leu
        195             200             205
Glu Leu Leu Asn Ile Pro Lys Gln Met Leu Pro Glu Val Lys Glu Ser
    210             215             220
Ser Glu Ile Tyr Gly Lys Thr Ile Asp Tyr His Phe Phe Gly Gln Glu
225             230             235                     240
Val Pro Ile Ala Gly Ile Ala Gly Asp Gln Gln Ala Ala Leu Phe Gly
            245             250             255
Gln Ala Cys Phe Asp Arg Gly Asp Val Lys Asn Thr Tyr Gly Thr Gly
        260             265             270
Gly Phe Met Leu Met Asn Thr Gly Glu Glu Ala Val Lys Ser Glu Ser
        275             280             285
Gly Leu Leu Thr Thr Ile Ala Tyr Gly Leu Asp Gly Lys Val Asn Tyr
    290             295             300
Ala Leu Glu Gly Ser Ile Phe Val Ser Gly Ser Ala Ile Gln Trp Leu
305             310             315                     320
Arg Asp Gly Leu Arg Met Ile Asn Ser Ala Pro Gln Thr Glu Asn Tyr
            325             330             335
Ala Ser Arg Val Glu Ser Thr Glu Gly Val Tyr Met Val Pro Ala Phe
            340             345             350
Val Gly Leu Gly Thr Pro Tyr Trp Asp Ser Glu Ala Arg Gly Ala Ile
        355             360             365
Phe Gly Leu Ser Arg Gly Thr Glu Lys Glu His Phe Ile Arg Ala Thr
    370             375             380
Leu Glu Ser Leu Cys Tyr Gln Thr Arg Asp Val Met Glu Ala Met Ser
385             390             395                     400
Lys Asp Ser Gly Ile Glu Val Gln Asn Leu Arg Val Asp Gly Gly Ala
            405             410             415
Val Lys Asn Asn Phe Ile Met Gln Phe Gln Ala Asp Ile Val Asn Ser
            420             425             430
Ser Val Glu Arg Pro Glu Ile Gln Glu Thr Thr Ala Leu Gly Ala Ala
        435             440             445
Tyr Leu Ala Gly Leu Ala Val Gly Phe Trp Asp Asp Lys Glu Asp Ile
    450             455             460
Arg Glu Arg Trp Lys Leu Gln Thr Glu Phe Lys Pro Glu Met Asp Ala
465             470             475                     480
Asp Gln Arg His Lys Leu Tyr Ser Gly Trp Lys Lys Ala Val Lys Ala
            485             490             495
Thr Gln Val Phe Lys Leu Glu Asp
            500
```

<210> 4348
<211> 391
<212> PRT
<213> S.epidermidis

<400> 4348
```
Lys Lys His Ile Glu Leu Lys Arg Thr Asn Val Leu Ile Arg Arg Ile
1               5                   10                  15
Ile Met Lys Ile Val His Thr Ala Asp Trp His Leu Gly Lys Ile Leu
            20                  25                  30
Asn Gly Lys Gln Leu Leu Glu Asp Gln Lys Tyr Ile Leu Thr Gln Phe
            35                  40                  45
Lys Gln His Met Glu Lys Glu Gln Pro Asp Leu Ile Val Ile Ala Gly
        50                  55                  60
Asp Leu Tyr Asp Thr Ser Tyr Pro Ser Lys Glu Ala Ile Gly Leu Leu
65                  70                  75                  80
Glu Glu Thr Ile Glu Tyr Leu Asn Ile Glu Leu Lys Ile Pro Ile Ile
                85                  90                  95
Met Ile Ser Gly Asn His Asp Gly Arg Glu Arg Leu Asn Tyr Gly Ser
            100                 105                 110
Lys Trp Phe Glu Asn Asn Gln Leu Tyr Ile Arg Thr Gln Leu Glu Asn
            115                 120                 125
Ile Asp Asp Pro Ile Glu Leu Ser Gly Val Gln Phe Phe Thr Leu Pro
        130                 135                 140
Phe Ala Thr Val Ser Glu Val Gln Asn Tyr Phe Lys Asp Lys Gln Ile
145                 150                 155                 160
Glu Thr Tyr Gln Gln Ala Leu Asn Glu Cys Leu Glu Gln Met Ser Ser
                165                 170                 175
Ser Ile Asp Asn Asn Lys Val Asn Ile Leu Ile Gly His Leu Thr Ile
            180                 185                 190
Glu Gly Gly Lys Thr Ser Asp Ser Glu Arg Pro Leu Thr Ile Gly Thr
            195                 200                 205
Val Glu Ser Val Asp Met His Ser Phe Arg Leu Phe Asp Tyr Val Met
    210                 215                 220
Leu Gly His Leu His His Pro Phe Ser Ile Asn Asn Ser Phe Ile Lys
225                 230                 235                 240
Tyr Ser Gly Ser Ile Leu Gln Tyr Ser Phe Ser Glu Val Asn Gln Ser
                245                 250                 255
Lys Gly Tyr Arg Val Leu Asp Ile Glu Asn Asn Gln Leu Leu Asn Glu
            260                 265                 270
Thr Phe Val Pro Leu Lys Pro Leu Arg Glu Leu Glu Val Ile Glu Gly
            275                 280                 285
Asp Tyr Glu Asp Ile Ile Gln Glu Arg Ile Lys Val Lys Asn Lys Asn
    290                 295                 300
Asn Tyr Phe His Phe Lys Leu Thr Asn Val Ser His Ile Thr Asp Pro
305                 310                 315                 320
Met Met Lys Leu Lys Gln Ile Tyr Pro Asn Ile Leu Ala Leu Ser Asn
            325                 330                 335
Val Val Phe Asp His Ser Glu Asn Phe Ser His Val Glu Ile Lys Lys
            340                 345                 350
Gln Asp Asp Gln Thr Ile Ile Glu Asn Phe Tyr Lys Asn Met Thr Asp
            355                 360                 365
Gln His Leu Ser Gln Val Gln Ser Asp Lys Ile Lys His Leu Leu Ser
    370                 375                 380
Phe Ile Leu Asp Arg Glu Gly
```

385   390

<210> 4349
<211> 196
<212> PRT
<213> S.epidermidis

<400> 4349
Gly Phe Asn Met Asn Ile Pro Asn Gln Ile Thr Val Phe Arg Val Ile
1   5   10   15
Leu Ile Pro Phe Phe Ile Leu Phe Ala Leu Val Asp Phe Gly Phe Gly
            20   25   30
Gln Ile Ser Ile Leu Gly Gly Asn His Ile Arg Ile Glu Ile Leu Ile
        35   40   45
Ser Ala Ile Ile Phe Val Val Ala Ser Leu Ser Asp Phe Ala Asp Gly
        50   55   60
Tyr Leu Ala Arg Lys Trp Gln Leu Val Thr Asn Met Gly Lys Phe Leu
65   70   75   80
Asp Pro Leu Ala Asp Lys Leu Leu Val Ala Ser Ala Leu Ile Val Met
            85   90   95
Val Gln Leu Gly Phe Thr Asn Ser Val Val Ala Ile Ile Ile Ile Ala
            100   105   110
Arg Glu Phe Ala Val Thr Gly Leu Arg Leu Leu Gln Ile Glu Gln Gly
            115   120   125
Phe Val Ser Ala Ala Gly Gln Leu Gly Lys Ile Lys Thr Ala Val Thr
            130   135   140
Met Val Ala Ile Ile Trp Ile Leu Leu Gly Asp Pro Phe Leu His Tyr
145   150   155   160
Leu His Phe Pro Ile Gly Val Trp Leu Leu Tyr Ile Gly Val Phe Phe
                165   170   175
Thr Ile Leu Ser Gly Ile Glu Tyr Phe Tyr Lys Gly Arg Asp Val Phe
                180   185   190
Lys His Ser Lys
        195

<210> 4350
<211> 124
<212> PRT
<213> S.epidermidis

<400> 4350
His Asn Asn Met Tyr Ser Glu Lys Glu Ile Ile Arg Lys Val Glu Ser
1   5   10   15
Leu Ala Glu Lys Ile Gly Lys Leu Glu Val Val Gln Asp Tyr His Asn
            20   25   30
Val Glu Lys Gln Ile His Asn Asn Gln Ala Ile Lys Gln Lys Met Asn
        35   40   45
Arg Leu Lys Ala Gln Gln Lys Gln Ser Val Asn Phe Gln Asn Tyr Gly
        50   55   60
Lys Gln Asn Ala Leu Glu Gln Ser Glu Val Lys Ile Gln Asn Leu Lys
65   70   75   80
Asp Glu Ile Asn Glu Leu Pro Ile Val Glu Glu Phe Arg Ser Ala Gln
            85   90   95
Tyr Glu Ala Asn Asp Leu Leu Gln Met Met Val Lys Thr Met Glu Asp
            100   105   110
Arg Leu Asn Glu Tyr Asn Lys Lys Glu His Asn Glu

115   120

<210> 4351
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4351
Ala Leu Ile Ile Lys Val Val Ser Leu Thr Gly Val Lys Ile Thr Met
1   5   10   15
Gln Ser Lys Thr Val Ile Asn Lys Arg Asn Leu Leu Ile Val Phe Thr
            20   25   30
Tyr Tyr Phe Leu Leu Ile Ser Ile Thr Ile Lys Asp
        35   40

<210> 4352
<211> 104
<212> PRT
<213> S.epidermidis

<400> 4352
His Arg Ile Ile Gly Trp Ser Asp Lys Leu Met Arg Lys Lys Lys Ile
1   5   10   15
Pro Met Arg Lys Cys Ile Ile Ser Asn Glu Met Arg Pro Lys Lys Asp
            20   25   30
Met Ile Arg Val Val Ile Asn Lys Glu Gly Glu Ile Phe Ala Asp Ala
        35   40   45
Thr Gly Lys Lys Gln Gly Arg Gly Ala Tyr Val Ser Lys Asp Val Ala
    50   55   60
Leu Val Glu Lys Ala Gln Gln Arg Glu Val Leu Glu Lys Tyr Phe Asn
65   70   75   80
Ala Thr Lys Asp Thr Leu Asp Pro Val Tyr Lys Glu Ile Ile Arg Leu
                85   90   95
Ile Tyr Arg Glu Glu Ile Pro Lys
            100

<210> 4353
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4353
Leu Arg Thr Ile Ala Ile Ile Lys Ile Ile Ile Ile Ile Asp Lys Ile
1   5   10   15
Ile Val Lys Asp Ile Thr Thr His Pro Asn Leu Leu Ile Leu Asn Ser
            20   25   30
Ile Cys Lys Ile Asn Tyr Lys Leu Leu Lys Phe
        35   40

<210> 4354
<211> 870
<212> PRT
<213> S.epidermidis

<400> 4354
Gly Phe Ala Met Ile Lys Asn Ile Trp Asn Lys Pro Ile Lys Arg Phe

```
1                   5                   10                  15
Thr Leu Ile Val Leu Val Ser Cys Ile Leu Ser Phe Ile Leu Tyr Gly
            20                  25                  30
Pro Phe Leu Tyr Gln Phe Ile Thr Lys Gly Ile Val Phe Ser Gly Ser
            35                  40                  45
Gly Asp Gly Phe Arg Gln Met Met Pro Phe Gln Met Tyr Leu Tyr Glu
50                  55                  60
His Phe Thr Ser Leu Lys Gly Phe Tyr Asp Ala Ser Phe Gly Leu Gly
65                  70                  75                  80
Gly Asp Tyr Val Lys Ser Leu Ala Tyr Tyr Tyr Ser Leu Ser Pro Leu
            85                  90                  95
Met Trp Ile Asn Phe Ser Met Ile Trp Ile Leu Glu Gln Thr Ile Asn
            100                 105                 110
Val Asn Pro His Asp Ile Ser Phe Trp Pro Ile Asn Gln Leu Ile Met
            115                 120                 125
Ala Tyr Val Arg Thr Val Ile Thr Phe Ile Phe Ser Phe Tyr Leu Phe
            130                 135                 140
Ser Tyr Leu Arg Leu Lys Pro Ala Pro Met Phe Ile Ala Thr Ile Leu
145                 150                 155                 160
Tyr Gly Met Ser Thr Val Val Thr Tyr Tyr Asn Phe Thr Trp Ser Phe
            165                 170                 175
Tyr Gly Asn Leu Leu Ile Met Leu Pro Met Ser Leu Trp Ala Ile Glu
            180                 185                 190
Arg Phe Phe Lys Glu Arg Lys Ile Gly Trp Phe Ile Phe Ala Ile Ala
            195                 200                 205
Tyr Thr Leu Phe Ser Asn Phe Tyr Phe Ser Tyr Tyr Glu Ala Ile Val
            210                 215                 220
Ile Gly Phe Tyr Phe Ile Tyr Arg Phe Ala Ile Pro His Glu Lys Asp
225                 230                 235                 240
Ile Val Asn Arg Trp Gln Lys Leu Tyr Ile Leu Val Cys Ala Thr Leu
            245                 250                 255
Leu Ser Val Leu Val Ser Ile Tyr Gly Leu Tyr Thr Gly Ile Ser Ser
            260                 265                 270
Phe Leu Asp Asn Asp Arg Ala Gln Asn Pro Asn Phe Lys Ile Thr Phe
            275                 280                 285
Phe Thr Asn Leu Phe Glu Thr Asn Tyr Asn Ile Phe Ala Asp Gly Phe
            290                 295                 300
Tyr Ile Thr Ile Ser Phe Ile Ala Ile Ile Ala Leu Phe Cys Phe Lys
305                 310                 315                 320
Leu Tyr Gln His Tyr Tyr Tyr Lys Leu Phe Ala Ile Ala Thr Trp Ile
            325                 330                 335
Leu Leu Ile Gly Ser Phe Ser Gln Trp Phe Asp Ser Ala Phe Asn Gly
            340                 345                 350
Phe Ser Leu Pro Gln Arg Arg Trp Val Tyr Phe Leu Ala Leu Ser Thr
            355                 360                 365
Ser Val Leu Ile Ala Leu Phe Ile Gln His Leu Ser Glu Ile Ser Ile
            370                 375                 380
Lys Glu Tyr Thr Phe Val Ala Ile Pro Val Phe Ile Tyr Gly Phe Ile
385                 390                 395                 400
Phe Ile Ala Leu Ser Glu Arg Ser Val Lys Trp Met Phe Val Ala Leu
            405                 410                 415
Ile Leu Ile Ile Val Leu Phe Ile Phe Ile Lys Tyr Lys Ser Leu Leu
            420                 425                 430
Thr Arg Thr Ser Met Met Val Leu Leu Val Val Leu Phe Leu Ala Gln
            435                 440                 445
Gln Val Leu Met Thr Asn Asp Ser Arg Lys Ile Thr Ile Glu Pro Tyr
```

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            450                   455                    460
Gln Thr Thr Ile Lys Thr Ile Asn Asp Ser Ser Tyr Arg Ser Pro Val
465                 470                  475                   480
Leu Asn Lys Lys Ile Lys Tyr Met His Gln Ser Ser Thr Asp Pro Leu
                485                  490                  495
Lys Arg Leu Asp Tyr Phe Ser Tyr Tyr Ala Leu Asn Ser Pro Leu Ile
            500                  505                  510
Tyr His Tyr Asn Gly Thr Ser Leu Tyr Ser Ser Ile Phe Asp Gly Asp
            515                  520                  525
Ile Leu Lys Tyr Tyr Asp Gln Thr Leu Gln Ile Asn Met Pro Val Asp
            530                  535                  540
Lys Asn Ser Thr Tyr Arg Tyr Leu Asn Asn Arg Ala Asn Leu Met Ser
545                 550                  555                   560
Leu Trp Asp Val Gln Asp Arg Leu Arg His Pro Asp Asp Leu Asn Met
                565                  570                  575
Pro Tyr Gly Phe Lys Lys Lys Glu Leu Ile Thr Asp Lys Lys Asp Gln
                580                  585                  590
Trp Ile His Ser Val Asn Thr Ile Asn Tyr Pro Ser Ala His Ile Thr
                595                  600                  605
Asn Lys Ile Tyr Asp Ala Arg Lys Leu Lys Ser Pro Leu Asp Arg Glu
            610                  615                  620
Gln Ala Met Leu Lys Gly Val Val Leu Asn His Lys Ser Gln Ala Asn
625                 630                  635                   640
Thr Asp Phe Lys Pro Asn Pro Asn Leu Leu Ser Asn Ala Lys Gln Asn
                645                  650                  655
Leu Asn His Ala Asn Trp Ile Asp Ser Lys His Leu Lys Val Lys Gln
                660                  665                  670
His Asn Gly Gly Val Thr Leu Asn Leu Leu Arg Asn Ile Val Lys Asn
            675                  680                  685
Tyr Lys Asp Met Tyr Ile Glu Met Asp Val Glu Leu Leu Ser Leu Asp
            690                  695                  700
Lys Glu His Lys Val Gly Val Asn Glu Tyr Ser Gln Glu Arg Asn Arg
705                 710                  715                   720
Leu Ser Tyr Lys Tyr Arg Arg Phe Val Ser Pro Val Thr Met Arg Ala
                725                  730                  735
Lys Ala Ser Asn Gln Leu Asn Ile Lys Met Ser Lys Gly Val Tyr Arg
                740                  745                  750
Phe Lys Val Lys Gly Ile Tyr Gly Glu Asn Tyr Gln Thr Leu Lys Lys
                755                  760                  765
Ala Ser Gln Gln Leu Gln Pro Val Lys Val Lys Lys Glu Arg Asn Gly
            770                  775                  780
Phe Thr Ile Ile Lys Lys Lys Lys Glu His Gly Tyr Leu Val Leu Pro
785                 790                  795                   800
Met Val Tyr Ala Lys Gly Met His Ala Met Ala Asn Gly Lys Pro Leu
                805                  810                  815
Lys Val Gln Gln Gly Asn Gly Ile Met Thr Thr Ile Pro Val Lys Glu
            820                  825                  830
Gly Gln Thr Lys Ile Lys Leu Ser Tyr Thr Pro Pro Tyr Phe Tyr Leu
            835                  840                  845
Leu Ile Thr Val Ser Cys Ile Gly Ile Ile Leu Ser Ile Leu Phe Thr
            850                  855   ·              860
His Tyr Val Lys Arg Lys
865                 870
```

<210> 4355
<211> 40

<212> PRT
<213> S.epidermidis

<400> 4355
Glu Ser Tyr Ile Leu Ile Val Arg Leu Ser Thr Asp Met Cys Gln Asp
1   5   10   15
Met Lys Leu His Tyr Thr His Phe Lys Leu Leu Phe Leu Lys Asn Lys
            20   25   30
Ser Lys Thr Thr Lys Lys Asp Gly
            35   40

<210> 4356
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4356
Leu Val Val Leu Ser Met Asn Asn Arg Lys Leu Glu Lys Gln Phe Pro
1   5   10   15
Met Ala Leu Ser Thr Ser Leu Gln Val Thr Arg Asn Phe Gly Asn Leu
            20   25   30
Tyr Thr Val Asn Lys Asn Val Phe Lys Phe Val Asn Gln Gly Ile Ile
            35   40   45
Ile Phe Ser
        50

<210> 4357
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4357
Val Leu Asn Ile Gly Phe Ser Ser Thr Pro Thr Ile Asp Val Lys Asn
1   5   10   15
Lys Ala Leu Lys Cys Leu Asp Leu Cys Phe Asn Phe Val Asn Lys Ile
            20   25   30
Glu Lys Ile Asp Ser Phe Leu Ser Ile Lys Asn His His Asn Glu Leu
            35   40   45

<210> 4358
<211> 429
<212> PRT
<213> S.epidermidis

<400> 4358
Asn Met Ser Ile Leu Ile Thr Ile Ile Ser Phe Ile Ile Val Phe Gly
1   5   10   15
Val Leu Val Thr Val His Glu Tyr Gly His Met Phe Phe Ala Lys Arg
            20   25   30
Ala Gly Ile Met Cys Pro Glu Phe Ala Ile Gly Met Gly Pro Lys Ile
            35   40   45
Phe Ser Phe Arg Lys Asp Glu Thr Leu Tyr Thr Ile Arg Leu Leu Pro
        50   55   60
Val Gly Gly Tyr Val Arg Met Ala Gly Asp Gly Leu Glu Glu Pro Pro
65   70   75   80
Val Gln Pro Gly Met Asn Val Lys Ile Lys Leu Asn Asn Gln Asp Glu

```
                    85                    90                    95
Ile Thr His Ile Ile Leu Asp Asp Gln His Lys Phe Gln Gln Ile Glu
                   100                   105                   110
Ala Ile Glu Val Lys Lys Cys Asp Phe Lys Asp Asp Leu Tyr Ile Glu
         115                   120                   125
Gly Ile Thr Ser Tyr Asp Asp Glu Arg His His Phe Thr Ile Ala Lys
    130                   135                   140
Lys Ala Phe Phe Val Glu Asn Gly Ser Leu Val Gln Ile Ala Pro Arg
145                   150                   155                   160
Asp Arg Gln Phe Thr His Lys Lys Pro Leu Pro Lys Phe Leu Thr Leu
                   165                   170                   175
Phe Ala Gly Pro Leu Phe Asn Phe Ile Leu Ala Leu Val Leu Phe Ile
              180                   185                   190
Gly Leu Ala Tyr Tyr Gln Gly Thr Pro Thr Asn Val Ile Gly Glu Val
         195                   200                   205
Val Lys Lys Ser Pro Ala Asp Glu Ala Gly Leu His Lys Gly Asp Lys
    210                   215                   220
Ile Val Gln Val Gly Asn His Lys Ile Lys Asn Phe Asp Asp Ile Lys
225                   230                   235                   240
His Val Leu Asp Gln Asn Lys Thr Ala Lys Thr Thr Val Lys Ile Lys
                   245                   250                   255
Arg Asp Gly Gln Asn Lys Ser Val Asp Leu Gln Pro Lys Lys Val Glu
              260                   265                   270
Arg Lys Ile Thr Lys Thr Lys Thr Gln Thr Thr Tyr Gln Ile Gly Phe
         275                   280                   285
Ala Pro Thr Thr Glu His Ser Val Phe Lys Pro Ile Ser Tyr Gly Ile
    290                   295                   300
Tyr Asn Phe Phe Asp Lys Gly Lys Leu Ile Phe Thr Ala Val Val Gly
305                   310                   315                   320
Met Leu Ala Ser Ile Phe Thr Gly Glu Phe Ser Phe Asp Met Leu Asn
              325                   330                   335
Gly Pro Val Gly Ile Tyr His Ser Val Asp Ser Val Val Lys Ser Gly
              340                   345                   350
Ile Ile Asn Leu Val Gly Tyr Thr Ala Leu Leu Ser Val Asn Leu Gly
         355                   360                   365
Ile Met Asn Leu Leu Pro Ile Pro Ala Leu Asp Gly Gly Arg Ile Leu
    370                   375                   380
Phe Val Leu Tyr Glu Ala Ile Phe Arg Lys Pro Val Asn Lys Lys Ala
385                   390                   395                   400
Glu Thr Gly Ile Ile Ala Val Gly Ala Leu Phe Val Val Ile Ile Met
              405                   410                   415
Ile Leu Val Thr Trp Asn Asp Ile Gln Arg Tyr Phe Leu
              420                   425
```

```
<210> 4359
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4359
Leu Ile Leu Ile Val Leu Asn Lys Phe Thr Asn Ser His Arg Arg Phe
1                5                    10                   15
Phe Met Asn Arg Lys Met Ile Phe Ile Leu Asn Asp Ala Arg Val Lys
              20                   25                   30
Leu Lys Val Val Gly Leu Ala Ile Ile Lys Tyr Asn Tyr Glu Val Ile
         35                   40                   45
```

Asp Lys Ser Leu Arg Lys
    50

<210> 4360
<211> 57
<212> PRT
<213> S.epidermidis

<400> 4360
His Ile Ile Ile Phe Asn Ile Ile Tyr Arg Phe Asn Tyr Leu Asp Asp
1   5   10   15
Phe Leu Ile Lys His Lys Phe Ile Arg Gly Val Glu His Glu His Phe
            20   25   30
Asn Tyr Asp Tyr Phe Ile Tyr His Arg Ile Trp Cys Thr Arg Asn Cys
        35   40   45
Ser Arg Ile Trp Thr His Val Phe Cys
    50   55

<210> 4361
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4361
Thr Ile Val Ile Glu Leu Ile Ile Asp Lys Leu Lys Ile Lys Leu Leu
1   5   10   15
Ser Val Ser Lys Phe Val Lys Phe Glu Gly Glu Asn Leu Ile Leu Leu
            20   25   30
Ile Leu Ser Val Ile Phe Met Thr Thr
        35   40

<210> 4362
<211> 341
<212> PRT
<213> S.epidermidis

<400> 4362
Val Asn Thr Ile Lys Arg Phe Leu Leu Leu Ile Thr Val Leu Leu Cys
1   5   10   15
Ile Val Ile Phe Thr Pro Val Lys Glu Thr Thr Phe Met Ile Lys Ala
            20   25   30
Gln Asn Asp Ile Arg His Gln Ile Asn Arg Trp Ile Asp Ser Asp Ser
        35   40   45
Asn Asp Asp Asn Thr Gln Leu Ala Ile Pro Lys Lys Gln Glu Phe Ala
    50   55   60
Ile Asn Asn Ile Gln Met Asn Met Thr Lys Lys Asp Val Glu Ala Gln
65   70   75   80
Leu Gly Gln His Lys Arg Met Thr Ser Ser Val Tyr Gly Thr Asn Trp
            85   90   95
Tyr Thr Tyr Tyr Ser Asn Asp Tyr Asn Gln Phe Leu Met Val Ser Tyr
            100   105   110
Ile Asn Asn His Val Asn Ala Leu Tyr Thr Asn Gln Asn Leu Ile Ser
        115   120   125
Ser Lys Ser Gln Ile Lys Tyr Asp Thr Pro Lys Asp Val Val Arg Glu
    130   135   140
Arg Tyr Gly Pro Pro Ile Gln Val Ile Lys Lys Gly Lys Val Gly Phe

```
145                 150                 155                 160
Asp Val Lys Ser Asn Glu Tyr Asp Val Phe His Lys Asp His Ile Tyr
                165                 170                 175
Thr Thr Val Phe Tyr Asp Lys His Arg Asp Asn Gly Val Lys Ser Leu
            180                 185                 190
Leu Gln Val Ser Glu Lys Met Glu Asn Arg Leu Arg Tyr Gln Tyr Gly
            195                 200                 205
Lys Pro Ser Lys Leu Leu Ala Lys Ser Phe Glu Leu Gln Asn Phe Asp
        210                 215                 220
Ile Val Asn Ala Glu Arg Lys Gln His Gly Leu Lys Thr Leu Asp Tyr
225                 230                 235                 240
Ser Lys Asp Val Ser His Thr Ala Arg Lys His Ser Val Asp Met Val
                245                 250                 255
Lys His Asn Tyr Phe Asp His Val Asn Gln Lys Lys Leu Ser Pro Phe
            260                 265                 270
Asp Arg Leu Lys Lys Asp Gly Ile Glu Phe Asn Ala Ala Gly Glu Asn
            275                 280                 285
Leu Ala Tyr Gly Gln Leu Asn Ser Ile Tyr Ala His Glu Gly Leu Met
            290                 295                 300
Asn Ser Leu Gly His Arg Lys Asn Ile Leu Asn Thr His Phe Asp Tyr
305                 310                 315                 320
Leu Gly Val Gly Val Tyr Phe Asn Asp Arg Arg Gln Pro Phe Trp Thr
                325                 330                 335
Glu Asn Tyr Thr Ser
            340


<210> 4363
<211> 403
<212> PRT
<213> S.epidermidis


<400> 4363
Leu Met Lys Ile Gln Thr Glu Val Asp Glu Leu Gly Phe Phe Gly Glu
1               5                   10                  15
Tyr Gly Gly Gln Tyr Val Pro Glu Thr Leu Met Pro Ala Ile Ile Glu
            20                  25                  30
Leu Lys Lys Ala Tyr Glu Asp Ala Lys Ser Asp Thr His Phe Lys Lys
        35                  40                  45
Glu Phe Asn Tyr Tyr Leu Ser Glu Tyr Val Gly Arg Glu Thr Pro Leu
        50                  55                  60
Thr Phe Ala Glu Ser Tyr Thr Lys Leu Leu Gly Gly Ala Lys Ile Tyr
65                  70                  75                  80
Leu Lys Arg Glu Asp Leu Asn His Thr Gly Ala His Lys Ile Asn Asn
                85                  90                  95
Ala Ile Gly Gln Ala Leu Leu Ala Lys Arg Met Gly Lys Thr Lys Leu
            100                 105                 110
Val Ala Glu Thr Gly Ala Gly Gln His Gly Val Ala Ser Ala Thr Ile
        115                 120                 125
Ala Ala Leu Phe Asp Met Asp Leu Ile Val Phe Met Gly Ser Glu Asp
        130                 135                 140
Ile Lys Arg Gln Gln Leu Asn Val Phe Arg Met Glu Leu Leu Gly Ala
145                 150                 155                 160
Lys Val Val Ser Val Ser Asp Gly Gln Gly Thr Leu Ser Asp Ala Val
                165                 170                 175
Asn Lys Ala Leu Gln Tyr Trp Val Asn His Val Glu Asp Thr His Tyr
            180                 185                 190
```

```
Leu Leu Gly Ser Ala Leu Gly Pro Asp Pro Phe Pro Thr Met Val Arg
        195                 200                 205
Asp Phe Gln Ser Val Ile Gly Asn Glu Ile Lys Ser Gln Ile Leu Ser
        210                 215                 220
Lys Glu Gly Arg Phe Pro Asp Ala Leu Val Ala Cys Val Gly Gly Arg
225                 230                 235                 240
Ser Asn Ser Ile Gly Thr Phe Tyr Pro Phe Ile Gln Asp Asp Val Lys
                245                 250                 255
Leu Tyr Gly Val Glu Ala Ala Gly Lys Gly Ser His Thr His Asn His
        260                 265                 270
Ala Leu Ala Ile Gly Lys Gly Lys Pro Gly Val Leu His Gly Ser Lys
        275                 280                 285
Met Tyr Leu Ile Gln Asn Asp Asp Gly Gln Ile Glu Leu Ala His Ser
        290                 295                 300
Ile Ser Ala Gly Leu Asp Tyr Pro Gly Ile Gly Pro Glu His Ser Tyr
305                 310                 315                 320
Tyr Asn Asp Ile Gly Arg Val Ser Tyr Val Ser Ala Thr Asp Asn Glu
                325                 330                 335
Ala Met Glu Ala Leu Ile Thr Phe Ser Lys Val Glu Gly Ile Ile Pro
        340                 345                 350
Ala Ile Glu Ser Ala His Ala Leu Ser Tyr Val Glu Lys Leu Ala Pro
        355                 360                 365
Asn Met Asp Glu Lys Glu Ile Ile Val Val Thr Ile Ser Gly Arg Gly
        370                 375                 380
Asp Lys Asp Met Glu Thr Ile Lys Gln Tyr Lys Glu Asn Gly Gly Glu
385                 390                 395                 400
Gln Asn Glu
```

<210> 4364
<211> 383
<212> PRT
<213> S.epidermidis

<400> 4364

```
Ile Leu Glu Met Thr His Ile Gln Tyr Cys Tyr Ser Glu Asn Ser Glu
1               5                   10                  15
Thr Arg Arg Arg Ser Met Arg Asn Ile Leu Phe Val Gly Leu Gly Leu
            20                  25                  30
Ile Gly Gly Ser Leu Ala Ser Asn Leu Lys Tyr His Tyr Ser Asn Phe
        35                  40                  45
Asn Ile Leu Ala Tyr Asp Ser Asp Tyr Thr Gln Leu Asp Glu Ala Leu
        50                  55                  60
Ser Ile Gly Ile Ile Asp Gln Lys Val Asn Asp Tyr Ala Thr Ala Val
65                  70                  75                  80
Glu Ile Ala Asp Ile Ile Ile Phe Ala Thr Pro Val Glu Gln Thr Ile
            85                  90                  95
Lys Tyr Leu Ser Glu Leu Thr Asn Tyr Asn Thr Lys Thr His Leu Ile
        100                 105                 110
Val Thr Asp Thr Gly Ser Thr Lys Leu Thr Ile Gln Ser Phe Glu Lys
        115                 120                 125
Glu Leu Leu Lys His Asp Ile His Leu Ile Ser Gly His Pro Met Ala
        130                 135                 140
Gly Ser His Lys Ser Gly Val Leu Asn Ala Lys Lys His Leu Phe Glu
145                 150                 155                 160
Asn Ala Tyr Tyr Ile Leu Val Phe Asn Glu Ile Glu Asn Asn Glu Ala
```

```
                     165                    170                     175
Ala Thr Tyr Leu Lys Lys Leu Leu Lys Pro Thr Leu Ala Lys Phe Ile
                180                    185                     190
Val Thr His Ala Asn Glu His Asp Phe Val Thr Gly Ile Val Ser His
           195                    200                     205
Val Pro His Ile Ile Ala Ser Ile Leu Val His Leu Ser Ala Asn His
      210                    215                     220
Val Lys Asp His Ser Leu Ile Glu Lys Leu Ala Ala Gly Gly Phe Arg
225                    230                    235                     240
Asp Ile Thr Arg Ile Ala Ser Ser Asn Ala Gln Met Trp Lys Asp Ile
                245                    250                     255
Thr Leu Asn Asn Gln Asn His Ile Leu Ser Leu Leu Asn Glu Ile Lys
           260                    265                     270
Glu Gln Ile Thr Gly Ile Glu Asn Leu Ile Arg Glu Gln Asn Ser Asn
           275                    280                     285
Ser Ile Tyr Asp Phe Phe Val Lys Ala Lys Asp Tyr Arg Asp Gln Leu
      290                    295                     300
Pro Val Lys Gln His Gly Ala Ile Ser Thr Ala Tyr Asp Leu Tyr Val
305                    310                    315                     320
Asp Ile Pro Asp Lys Pro Gly Met Ile Ser Gln Ile Thr Asn Ile Ile
                325                    330                     335
Ser Ser His Asn Ile Ser Ile Ile Asn Leu Lys Ile Leu Glu Val Arg
           340                    345                     350
Glu Asp Ile Tyr Gly Ala Leu Gln Ile Ser Phe Lys Ser Pro Glu Asp
           355                    360                     365
Arg Glu Asn Ala Ile Lys Ala Leu Ala Asn Phe Asp Thr Tyr Tyr
      370                    375                     380
```

<210> 4365
<211> 193
<212> PRT
<213> S.epidermidis

<400> 4365
```
Met Thr Glu Met Thr Lys Pro Phe Leu Ile Val Ile Val Gly Pro Thr
1               5                    10                      15
Ala Ser Gly Lys Thr Glu Leu Ser Ile Glu Val Ala Lys Lys Phe Asn
                20                   25                      30
Gly Glu Ile Ile Ser Gly Asp Ser Met Gln Val Tyr Gln Gly Met Asp
           35                   40                     45
Ile Gly Thr Ala Lys Val Thr Thr Glu Glu Met Glu Gly Ile Pro His
      50                   55                     60
Tyr Met Ile Asp Ile Leu Pro Pro Asp Ala Ser Phe Ser Ala Tyr Glu
65                   70                   75                      80
Phe Lys Lys Arg Ala Glu Lys Tyr Ile Lys Asp Ile Thr Arg Arg Gly
                85                   90                      95
Lys Val Pro Ile Ile Ala Gly Gly Thr Gly Leu Tyr Ile Gln Ser Leu
                100                  105                     110
Leu Tyr Asn Tyr Ala Phe Glu Asp Glu Ser Ile Ser Glu Asp Lys Met
           115                  120                     125
Lys Gln Val Lys Leu Lys Leu Lys Glu Leu Glu His Leu Asn Asn Asn
      130                  135                     140
Lys Leu His Glu Tyr Leu Ala Ser Phe Asp Lys Glu Ser Ala Lys Asp
145                  150                     155                     160
Ile His Pro Asn Asn Arg Lys Arg Val Leu Arg Ala Ile Glu Tyr Tyr
                165                  170                     175
```

Leu Lys Thr Lys Lys Leu Leu Ser Phe Ser Gln Glu Ser Ala Pro Ile
            180   185   190
Tyr

<210> 4366
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4366
Met Asn Arg Met Leu Asn Ile Lys Gly Glu Val Lys Arg Pro Ile Phe
1   5   10   15
Leu Lys Ile Lys Arg Asn Arg Tyr Lys Asp Ile Asn Gly Ser Tyr Glu
            20   25   30
Asp Glu Val Tyr Glu Phe Asp Ser
            35   40

<210> 4367
<211> 67
<212> PRT
<213> S.epidermidis

<400> 4367
Gln Arg Arg Met Leu Ile Met Pro Ile Ile Asn Val Lys Leu Leu Glu
1   5   10   15
Gly Arg Ser Asp Glu Gln Leu Lys Asp Leu Val Thr Glu Val Thr His
            20   25   30
Ala Val Glu Lys Thr Thr Gly Ala Asn Lys Glu Ala Ile His Val Val
            35   40   45
Ile Glu Glu Met Arg Lys Asp His Tyr Ala Val Gly Gly Val Arg Lys
        50   55   60
Ser Asp Gln
65

<210> 4368
<211> 204
<212> PRT
<213> S.epidermidis

<400> 4368
Val Phe Met Met Ile Ile Val Met Leu Ile Leu Ser Tyr Leu Ile Gly
1   5   10   15
Ala Phe Pro Ser Gly Leu Ile Ile Gly Lys Leu Phe Phe Lys Lys Asp
            20   25   30
Ile Arg Gln Tyr Gly Ser Gly Asn Thr Gly Ala Thr Asn Ser Phe Arg
            35   40   45
Val Leu Gly Arg Pro Ala Gly Phe Ile Val Thr Phe Leu Asp Ile Phe
        50   55   60
Lys Gly Phe Ile Thr Val Phe Phe Pro Leu Trp Phe Pro Val His Ala
65   70   75   80
Asp Gly Val Ile Ser Thr Phe Phe Thr Asn Gly Leu Ile Val Gly Leu
                85   90   95
Phe Ala Ile Leu Gly His Val Tyr Pro Ile Tyr Leu Lys Phe Asn Gly
            100   105   110
Gly Lys Ala Val Ala Thr Ser Ala Gly Val Val Leu Gly Val Asn Pro

```
              115                    120                    125
Ile Leu Leu Leu Ile Leu Ala Ile Ile Phe Phe Ser Val Leu Lys Ile
         130                    135                    140
Phe Lys Tyr Val Ser Leu Ser Ser Ile Ile Ala Ala Ile Ser Cys Val
145                    150                    155                    160
Ile Gly Ser Ile Ile Ile His Asp Tyr Ile Leu Leu Ala Val Ser Gly
                   165                    170                    175
Ile Val Ser Ile Ile Leu Ile Ile Arg His Lys Ser Asn Ile Val Arg
              180                    185                    190
Ile Phe Lys Gly Glu Glu Pro Lys Ile Lys Trp Met
         195                    200
```

<210> 4369
<211> 123
<212> PRT
<213> S.epidermidis

<400> 4369
```
Phe Ile Met Ile Ser Leu Val Ile Thr Glu Asp Gln Leu Met Leu Arg
1                   5                    10                    15
Lys Ala Met Val Gln Leu Ile Glu Met His Glu Glu Met Asn Val Ile
              20                    25                    30
Lys Asp Phe Glu Asn Gly Val Glu Ala Leu Glu Phe Ile Glu Asn Asn
              35                    40                    45
Glu Pro Asn Val Ala Ile Leu Asp Ile Glu Ile Pro Gly Leu Thr Gly
         50                    55                    60
Leu Glu Ile Leu Ser Tyr Val Arg Lys Lys Gln Leu Asn Thr Arg Ile
65                    70                    75                    80
Ile Ile Val Thr Thr Phe Lys Arg Pro Gly Tyr Phe Glu Lys Ala Val
                   85                    90                    95
Ala Asn Asp Val Asp Ala Tyr Val Leu Lys Glu Arg Ser Ile Asp Asp
              100                    105                    110
Leu Ile Lys Thr Ile Tyr Lys Val Thr Lys Gly
         115                    120
```

<210> 4370
<211> 79
<212> PRT
<213> S.epidermidis

<400> 4370
```
Tyr Trp Met Ile Leu Lys Tyr Lys Tyr Lys Phe Leu Thr Tyr Met Thr
1                   5                    10                    15
Ile Val Ile Val Cys Cys Ile Ile Phe Ser Asn Phe Phe Leu Ser Val
              20                    25                    30
Asn Gln Gly Val Gln Ser Glu Gln Thr Tyr Glu Met Thr Asp His Lys
         35                    40                    45
Ile His Gln His Asn Gln Gln Gly Thr Thr Gln Asn Tyr Lys Asp Lys
         50                    55                    60
Gln Asn Ser Glu Gln Asn Asp Gln Ser Val Phe Ala Leu Val Asn
65                    70                    75
```

<210> 4371
<211> 130
<212> PRT
<213> S.epidermidis

<400> 4371

```
Val Lys Thr Ile Gly Glu Val Leu Lys Ser Arg Arg Glu Arg Leu Gly
1               5                  10                 15
Met Thr Leu Ser Glu Leu Glu Gln Arg Thr Gln Leu Lys Arg Gln Thr
            20                 25                 30
Leu Ile His Ile Glu Asn Asn Asp Phe Asn Glu Leu Ala Lys Ser Asp
            35                 40                 45
Tyr Thr Glu Gly Phe Ile Arg Lys Tyr Ala Lys Val Val Asn Ile Glu
        50                 55                 60
Pro Asn Gln Leu Ile Glu Ala His Gln Asp Glu Ile Pro Glu Thr Gln
65                 70                 75                 80
Tyr Gln Ile Asp Asp Val Ile Gln Thr Phe Ser Asn Gly Tyr Glu Pro
                85                 90                 95
Pro Tyr Arg Arg Gln Ser Lys Glu Ala Phe Gln Leu Leu Met Trp Met
            100                105                110
Gly Phe Ile Ile Leu Ile Ser Leu Ile Val Trp Ile Leu Ala Val Leu
        115                120                125
Ile Ile
    130
```

<210> 4372
<211> 266
<212> PRT
<213> S.epidermidis

<400> 4372

```
Thr Glu Thr Ile Arg Leu Gly Gly Lys Thr Met Phe Lys Lys Leu Lys
1               5                  10                 15
Asn Lys Asn Lys Thr Glu Thr Asn His Asn Asn Asp Leu Asp Ile His
            20                 25                 30
Asn Ile Pro Glu His Val Ala Ile Ile Met Asp Gly Asn Gly Arg Trp
        35                 40                 45
Ala Lys Lys Arg Lys Met Pro Arg Ile Lys Gly His Tyr Glu Gly Met
        50                 55                 60
Gln Thr Ile Lys Lys Ile Thr Arg Glu Ala Ser Asp Ile Gly Ile Lys
65                 70                 75                 80
Tyr Leu Thr Leu Tyr Ala Phe Ser Thr Glu Asn Trp Ser Arg Pro Glu
                85                 90                 95
Ser Glu Val Asn Tyr Ile Met Asn Leu Pro Val Asn Phe Leu Lys Thr
            100                105                110
Phe Leu Pro Glu Leu Ile Glu Lys Asn Val Lys Ile Glu Thr Ile Gly
        115                120                125
Phe Tyr Glu Gly Leu Pro Gln Ser Thr Ile Asp Ala Ile Asp Phe Ala
        130                135                140
Lys Ala Lys Thr Gln His Asn Thr Gly Leu Thr Leu Val Phe Ala Ile
145                150                155                160
Asn Tyr Gly Gly Arg Ala Glu Ile Ile Gln Ser Met Lys Ala Ile Tyr
                165                170                175
Asn Glu Leu Gln Leu Asn Gly Gln Gly Ser Glu Val Ile Asp Glu Ala
            180                185                190
Leu Ile Lys Arg His Leu Met Thr His Ser Tyr Pro Asp Pro Asp Leu
        195                200                205
Leu Ile Arg Thr Ser Gly Glu Gln Arg Ile Ser Asn Phe Leu Ile Trp
        210                215                220
Gln Ala Ser Tyr Ser Glu Phe Ile Phe Asn Glu Lys Leu Trp Pro Asp
```

```
225                 230                 235                 240
Phe Asp Glu Lys Glu Leu Arg Glu Cys Leu Lys Ile Tyr Gln Ser Arg
                245                 250                 255
Gln Arg Arg Phe Gly Gly Leu Ser Glu Glu
                260                 265
```

<210> 4373
<211> 288
<212> PRT
<213> S.epidermidis

<400> 4373
```
Leu Met Ala Ile Gln Trp Tyr Pro Gly His Met Ala Lys Ala Lys Arg
1               5                   10                  15
Gln Val Ser Glu Gln Leu Lys Lys Val Asp Val Val Phe Glu Leu Val
                20                  25                  30
Asp Ala Arg Ile Pro Tyr Ser Ser Arg Asn Pro Met Ile Asp Asp Val
            35                  40                  45
Ile Lys Gln Lys Pro Arg Val Val Ile Leu Asn Lys Lys Asp Met Thr
        50                  55                  60
Asn Leu Lys Glu Leu Glu Lys Trp Glu Ile Tyr Phe Lys Asn Glu Gly
65                  70                  75                  80
Phe Tyr Pro Val Ala Val Asp Ala Lys His Gly Lys Asn Leu Lys Asn
                85                  90                  95
Val Glu Val Glu Ala Ile Lys Ala Thr Gln Glu Lys Phe Asp Arg Glu
                100                 105                 110
Lys Ala Lys Gly Leu Lys Pro Arg Ala Ile Arg Ala Met Ile Val Gly
            115                 120                 125
Ile Pro Asn Val Gly Lys Ser Thr Leu Ile Asn Lys Leu Ala Lys Arg
            130                 135                 140
Ser Ile Ala Glu Thr Gly Asn Lys Pro Gly Val Thr Lys Gln Gln Gln
145                 150                 155                 160
Trp Ile Lys Val Gly Lys Ser Leu Gln Leu Leu Asp Thr Pro Gly Ile
                165                 170                 175
Leu Trp Pro Lys Phe Glu Asp Glu Glu Val Gly Lys Lys Leu Ser Leu
                180                 185                 190
Thr Gly Ala Ile Lys Asp Ser Ile Val His Leu Asp Glu Val Ala Ile
            195                 200                 205
Tyr Gly Leu Asn Phe Met Ile Lys His Asp Val Ser Ala Leu Lys Arg
            210                 215                 220
His Tyr Asn Ile Asp Thr His Glu Asp Ala Glu Ile Leu Asp Trp Phe
225                 230                 235                 240
Asp Ala Ile Gly Arg Arg Lys Gly Leu Leu Gln Lys Gly Asn Glu Val
                245                 250                 255
Asp Tyr Glu Ser Val Ile Glu Leu Ile Ile Asn Asp Met Arg Asn Ala
                260                 265                 270
Lys Ile Gly Thr Tyr Cys Phe Asp Ile Leu Lys Glu Met Lys Ser Glu
            275                 280                 285
```

<210> 4374
<211> 452
<212> PRT
<213> S.epidermidis

<400> 4374
```
Asn Trp Arg Ile Tyr Thr Met Pro Lys Arg Ser Phe Thr Lys Asp Asp
```

```
1                    5                         10                        15
Ile Arg Lys Phe Ala Glu Glu Glu Asn Val Arg Tyr Leu Arg Leu Gln
            20                      25                        30
Phe Thr Asp Ile Leu Gly Thr Ile Lys Asn Val Glu Val Pro Val Ser
            35                      40                        45
Gln Leu Glu Lys Val Leu Asp Asn Glu Met Met Phe Asp Gly Ser Ser
    50                      55                        60
Ile Glu Gly Phe Val Arg Ile Glu Glu Ser Asp Met Tyr Leu His Pro
65                      70                        75                    80
Asp Leu Asp Thr Trp Val Ile Phe Pro Trp Thr Ala Gly Gln Gly Lys
                85                      90                        95
Val Ala Arg Leu Ile Cys Asp Val Phe Lys Thr Asp Gly Thr Pro Phe
            100                     105                       110
Glu Gly Asp Pro Arg Ala Asn Leu Lys Arg Val Leu Arg Arg Met Glu
            115                     120                       125
Asp Met Gly Phe Thr Asp Phe Asn Leu Gly Pro Glu Pro Glu Phe Phe
    130                     135                       140
Leu Phe Lys Leu Asp Glu Lys Gly Glu Pro Thr Leu Glu Leu Asn Asp
145                     150                     155                     160
Asp Gly Gly Tyr Phe Asp Leu Ala Pro Thr Asp Leu Gly Glu Asn Cys
                165                     170                       175
Arg Arg Asp Ile Val Leu Glu Leu Glu Asp Met Gly Phe Asp Ile Glu
            180                     185                       190
Ala Ser His His Glu Val Ala Pro Gly Gln His Glu Ile Asp Phe Lys
            195                     200                       205
Tyr Ala Asp Ala Val Thr Ala Cys Asp Asn Ile Gln Thr Phe Lys Leu
    210                     215                       220
Val Val Lys Thr Ile Ala Arg Lys His Asn Leu His Ala Thr Phe Met
225                     230                     235                     240
Pro Lys Pro Leu Phe Gly Val Asn Gly Ser Gly Met His Phe Asn Val
                245                     250                       255
Ser Leu Phe Lys Gly Lys Glu Asn Ala Phe Phe Asp Pro Glu Gly Asp
            260                     265                       270
Leu Gln Leu Thr Asp Thr Ala Tyr Gln Phe Thr Ala Gly Val Leu Lys
            275                     280                       285
Asn Ala Arg Gly Phe Thr Ala Val Cys Asn Pro Ile Val Asn Ser Tyr
    290                     295                       300
Lys Arg Leu Val Pro Gly Tyr Glu Ala Pro Cys Tyr Ile Ala Trp Ser
305                     310                     315                     320
Gly Lys Asn Arg Ser Pro Leu Val Arg Val Pro Thr Ser Arg Gly Leu
                325                     330                       335
Ser Thr Arg Ile Glu Val Arg Ser Val Asp Pro Ala Ala Asn Pro Tyr
            340                     345                       350
Met Ala Leu Ala Ala Ile Leu Glu Ala Gly Leu Asp Gly Ile Glu Asn
            355                     360                       365
Lys Leu Glu Val Pro Glu Pro Val Asn Gln Asn Ile Tyr Glu Met Asn
    370                     375                       380
Arg Glu Glu Arg Glu Ala Val Gly Ile Gln Asp Leu Pro Ser Thr Leu
385                     390                     395                     400
Tyr Thr Ala Leu Lys Ala Met Arg Glu Asn Lys Ser Ile Lys Asn Ala
                405                     410                       415
Leu Gly Asn His Ile Tyr Asn Gln Phe Ile Asn Ser Lys Ser Ile Glu
            420                     425                       430
Trp Asp Tyr Tyr Arg Thr Gln Val Ser Glu Trp Glu Arg Glu Gln Tyr
            435                     440                       445
Ile Lys Gln Tyr
```

450

<210> 4375
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4375
Ser Ile Tyr Phe Asn Val Pro Cys Ile Thr Ser Ala Arg Leu Cys Gly
1   5   10   15
Gly Ile Ser Val Ala Tyr Pro Glu Glu Ile Pro Val Asp Pro Leu Ile
            20   25   30
Asn Lys Leu Gly Asn Leu Ala Gly Asn Thr Ile Gly Ser Lys Val Val
        35   40   45
Ser Ser
    50

<210> 4376
<211> 489
<212> PRT
<213> S.epidermidis

<400> 4376
Glu Gly Phe Val Leu Gln Asp Phe Asp Asn Leu Ile Pro Gly Trp Phe
1   5   10   15
Lys Thr Phe Val Gln Val Gly Asn Asp Leu Ile Trp Ser Gln Tyr Leu
            20   25   30
Ile Gly Leu Leu Leu Thr Ala Gly Phe Phe Thr Ile Ser Ser Lys
        35   40   45
Phe Ile Gln Leu Arg Met Leu Pro Glu Met Phe Arg Ala Leu Thr Glu
        50   55   60
Lys Pro Glu Thr Leu Ser Ser Gly Glu Lys Gly Ile Ser Pro Phe Gln
65   70   75   80
Ala Phe Ala Ile Ser Ala Gly Ser Arg Val Gly Thr Gly Asn Ile Ala
                85   90   95
Gly Val Ala Thr Ala Ile Val Leu Gly Gly Pro Gly Ala Val Phe Trp
            100   105   110
Met Trp Ile Ile Ala Phe Ile Gly Ala Ala Ser Ala Phe Met Glu Ala
        115   120   125
Thr Leu Ala Gln Val Tyr Lys Val His Asp Lys Glu Gly Gly Phe Arg
        130   135   140
Gly Gly Pro Ala Tyr Tyr Ile Thr Lys Gly Leu Asn Gln Lys Trp Leu
145   150   155   160
Gly Ile Val Phe Ala Val Leu Ile Thr Val Thr Phe Ala Phe Val Phe
                165   170   175
Asn Thr Val Gln Ala Asn Thr Ile Ala Glu Ser Leu Asn Thr Gln Tyr
            180   185   190
Asn Ile Ser Pro Val Ile Thr Gly Ile Val Leu Ala Val Ile Thr Gly
        195   200   205
Ile Ile Ile Phe Gly Gly Val Arg Ser Ile Ala Thr Leu Ser Ser Leu
        210   215   220
Ile Val Pro Ile Met Ala Ile Val Tyr Ile Gly Met Val Leu Ile Ile
225   230   235   240
Leu Leu Leu Asn Ile Asp Gln Ile Val Pro Met Ile Gly Thr Ile Ile
                245   250   255
Lys Ser Ala Phe Gly Val Gln Gln Val Thr Gly Gly Ala Val Gly Ala

```
                260                     265                     270
    Ala Ile Leu Gln Gly Ile Lys Arg Gly Leu Phe Ser Asn Glu Ala Gly
            275                     280                     285
    Met Gly Ser Ala Pro Asn Ala Ala Ala Thr Ser Ala Val Pro His Pro
            290                     295                     300
    Val Lys Gln Gly Leu Ile Gln Ser Leu Gly Val Phe Phe Asp Thr Met
    305                     310                     315                 320
    Leu Val Cys Thr Ala Thr Ala Ile Met Ile Leu Leu Tyr Ser Gly Leu
                325                     330                     335
    Gln Phe Gly Asp Ser Ala Pro Gln Gly Val Ala Val Thr Gln Ser Ala
                340                     345                     350
    Leu Asn Glu His Leu Gly Ser Ala Gly Gly Ile Phe Leu Thr Val Ala
                355                     360                     365
    Val Thr Leu Phe Ala Phe Ser Ser Val Val Gly Asn Tyr Tyr Tyr Gly
            370                     375                     380
    Gln Ser Asn Ile Glu Phe Leu Ser Asn Asn Lys Met Ile Leu Phe Ile
    385                     390                     395                 400
    Phe Arg Cys Phe Val Val Leu Leu Val Phe Val Gly Ala Val Ala Lys
                405                     410                     415
    Thr Glu Thr Val Trp Ser Thr Ala Asp Leu Phe Met Gly Leu Met Ala
                420                     425                     430
    Ile Val Asn Ile Ile Ser Ile Ile Gly Leu Ser Asn Ile Ala Phe Ala
                435                     440                     445
    Val Met Lys Asp Tyr Gln Arg Gln Arg Lys Glu Gly Lys Arg Pro Val
            450                     455                     460
    Phe Lys Pro Glu Asn Leu Glu Ile Asn Leu Phe Gly Ile Glu Thr Trp
    465                     470                     475                 480
    Gly Gln His Ala Lys Met Pro Lys Lys
                485
```

```
<210> 4377
<211> 676
<212> PRT
<213> S.epidermidis


<400> 4377
    Arg Thr Tyr Val Cys Arg Arg Ala Lys Ser Leu Ala Met Asn Lys Gln
    1               5                   10                  15
    Asn Asn Tyr Ser Asp Asp Ser Ile Gln Val Leu Glu Gly Leu Glu Ala
                20                      25                  30
    Val Arg Lys Arg Pro Gly Met Tyr Ile Gly Ser Thr Asp Lys Arg Gly
            35                      40                  45
    Leu His His Leu Val Tyr Glu Val Val Asp Asn Ser Val Asp Glu Val
            50                      55                  60
    Leu Asn Gly Tyr Gly Asp Ala Ile Thr Val Thr Ile Asn Gln Asp Gly
    65                      70                  75                  80
    Ser Ile Ser Ile Glu Asp Asn Gly Arg Gly Met Pro Thr Gly Ile His
                    85                      90                  95
    Ala Ser Gly Lys Pro Thr Ala Glu Val Ile Phe Thr Val Leu His Ala
                100                     105                 110
    Gly Gly Lys Phe Gly Gln Gly Gly Tyr Lys Thr Ser Gly Gly Leu His
                115                     120                 125
    Gly Val Gly Ala Ser Val Val Asn Ala Leu Ser Glu Trp Leu Glu Val
            130                     135                 140
    Glu Ile His Arg Asp Gly Asn Ile Tyr Thr Gln Asn Phe Lys Asn Gly
    145                     150                 155                 160
```

```
Gly Ile Pro Ala Thr Gly Leu Val Lys Thr Gly Lys Thr Lys Lys Thr
            165                 170                 175
Gly Thr Lys Val Thr Phe Lys Pro Asp Ser Glu Ile Phe Lys Ser Thr
            180                 185                 190
Thr Thr Phe Asn Phe Asp Ile Leu Ser Glu Arg Leu Gln Glu Ser Ala
            195                 200                 205
Phe Leu Leu Lys Asp Leu Lys Ile Thr Leu Thr Asp Leu Arg Ser Gly
    210                 215                 220
Lys Glu Arg Glu Glu Ile Tyr His Tyr Glu Glu Gly Ile Lys Glu Phe
225                 230                 235                 240
Val Ser Tyr Val Asn Glu Gly Lys Glu Val Leu His Asp Val Thr Thr
            245                 250                 255
Phe Ala Gly His Ser Asn Gly Ile Glu Val Asp Val Ala Phe Gln Tyr
            260                 265                 270
Asn Asp Gln Tyr Ser Glu Ser Ile Leu Ser Phe Val Asn Asn Val Arg
            275                 280                 285
Thr Lys Asp Gly Gly Thr His Glu Val Gly Phe Lys Thr Ala Met Thr
            290                 295                 300
Arg Val Phe Asn Glu Tyr Ala Arg Arg Ile Asn Glu Leu Lys Asp Lys
305                 310                 315                 320
Asp Lys Asn Leu Asp Gly Asn Asp Ile Arg Glu Gly Leu Thr Ala Ile
            325                 330                 335
Ile Ser Val Arg Ile Pro Glu Glu Leu Leu Gln Phe Glu Gly Gln Thr
            340                 345                 350
Lys Ser Lys Leu Gly Thr Ser Glu Ala Arg Ser Ala Val Asp Ser Val
            355                 360                 365
Val Ser Glu Lys Leu Pro Tyr Tyr Leu Glu Glu Lys Gly Gln Leu Ser
    370                 375                 380
Lys Ser Leu Val Lys Lys Ala Ile Lys Ala Gln Gln Ala Arg Glu Ala
385                 390                 395                 400
Ala Arg Lys Ala Arg Glu Asp Ala Arg Ser Gly Lys Lys Asn Lys Arg
            405                 410                 415
Lys Asp Thr Leu Leu Ser Gly Lys Leu Thr Pro Ala Gln Ser Lys Asn
            420                 425                 430
Thr Asp Lys Asn Glu Leu Tyr Leu Val Glu Gly Asp Ser Ala Gly Gly
            435                 440                 445
Ser Ala Lys Leu Gly Arg Asp Arg Lys Phe Gln Ala Ile Leu Pro Leu
    450                 455                 460
Arg Gly Lys Val Ile Asn Thr Glu Lys Ala Arg Leu Glu Asp Ile Phe
465                 470                 475                 480
Lys Asn Glu Glu Ile Asn Thr Ile Ile His Thr Ile Gly Ala Gly Val
            485                 490                 495
Gly Thr Asp Phe Lys Ile Glu Asp Ser Asn Tyr Asn Arg Ile Ile Ile
            500                 505                 510
Met Thr Asp Ala Asp Thr Asp Gly Ala His Ile Gln Val Leu Leu Leu
            515                 520                 525
Thr Phe Phe Phe Lys Tyr Met Lys Pro Leu Val Gln Ala Gly Arg Val
    530                 535                 540
Phe Ile Ala Leu Pro Pro Leu Tyr Lys Leu Glu Lys Gly Lys Gly Lys
545                 550                 555                 560
Asn Lys Lys Val Glu Tyr Ala Trp Thr Asp Glu Glu Leu Glu Asn Leu
            565                 570                 575
Gln Lys Gln Leu Gly Lys Gly Phe Ile Leu Gln Arg Tyr Lys Gly Leu
            580                 585                 590
Gly Glu Met Asn Pro Glu Gln Leu Trp Glu Thr Thr Met Asn Pro Glu
            595                 600                 605
```

Thr Arg Thr Leu Ile Arg Val Gln Val Glu Asp Glu Val Arg Ser Ser
    610   615   620
Lys Arg Val Thr Thr Leu Met Gly Asp Lys Val Ala Pro Arg Arg Glu
625   630   635   640
Trp Ile Glu Lys His Val Glu Phe Gly Met Gln Glu Asp Gln Ser Ile
            645   650   655
Leu Asp Asn Lys Glu Val Gln Ile Leu Glu Asn Glu Lys Tyr Ile Glu
            660   665   670
Glu Glu Thr Asn
        675

<210> 4378
<211> 344
<212> PRT
<213> S.epidermidis

<400> 4378
Phe Ile Phe Phe Ser Val Lys Ala Phe Gly Glu Thr Glu Phe Trp Leu
1   5   10   15
Ser Leu Ile Lys Val Ile Thr Ile Ile Val Phe Ile Ile Phe Gly Ile
            20   25   30
Met Met Ile Phe Gly Ile Leu Gly Gly His Thr Tyr Gly Phe Glu Asn
            35   40   45
Tyr Thr Lys Gly Gln Ala Pro Phe Val Gly Gly Ile Ser Gly Ile Leu
            50   55   60
Ser Val Leu Leu Val Ala Gly Phe Ser Val Gly Gly Thr Glu Val Val
65   70   75   80
Ala Val Thr Ala Gly Glu Ser Asn Asn Pro Glu Lys Ser Met Pro Lys
                85   90   95
Ala Ile Lys Gln Val Phe Trp Arg Ile Leu Leu Phe Tyr Val Leu Ser
            100   105   110
Ile Ala Val Ile Ala Ala Ile Ile Pro Tyr Thr Asp Pro Leu Leu Leu
            115   120   125
Asn Glu Asn Glu Ser Val Ser Gln Ser Pro Phe Thr Ile Val Phe Asp
    130   135   140
Arg Ile Gly Ile Ala Phe Ala Ala Ser Val Ile Asn Ala Val Ile Leu
145   150   155   160
Thr Ser Leu Leu Ser Ala Ala Asn Ser Gly Ile Tyr Thr Thr Ser Arg
                165   170   175
Met Leu Phe Ser Leu Ser Ala Asp Lys Gln Ala Pro Lys Phe Phe Gly
            180   185   190
Lys Leu Asn Asp Lys Thr Lys Leu Pro Met Arg Ala Leu Ile Thr Thr
            195   200   205
Tyr Ile Ile Ile Val Leu Val Ile Val Tyr Ala Asn Phe Asn Ala Asn
    210   215   220
Ala Val Phe Asn Leu Leu Asn Ile Ile Gly Ser Met Val Ile Val Val
225   230   235   240
Trp Gly Ser Ser Ile Trp Ser Gln Ile Arg Leu Arg Gln Ala Ile Lys
                245   250   255
Lys Gln Gly Lys Asn Pro Asp Lys Leu Leu Pro Tyr Lys Ala Pro Phe
            260   265   270
Tyr Pro Val Gly Pro Ile Ile Val Leu Phe Thr Leu Leu Phe Leu Leu
            275   280   285
Leu Gly Ser Ser Phe Gly Ser Ile Ala Ser Gly Asp Ile Leu Gly Val
    290   295   300
Ile Arg Asn Phe Thr Pro Leu Phe Ile Leu Ala Ile Ile Tyr Ile Ala

```
305                     310                 315                 320
His Lys Leu Ile Lys Arg Thr His Phe Val Lys Leu Glu Glu Ile Asp
                    325                 330                 335
Leu Thr Pro His Asn Tyr Lys Asn
                340
```

<210> 4379
<211> 494
<212> PRT
<213> S.epidermidis

<400> 4379

```
Glu Tyr Leu Val Met Asn Phe Gly Phe Leu Gly Thr Ile Leu Thr Ile
1                   5                   10                  15
Leu Leu Val Val Gly Phe Ile Thr Asn Val Val Leu Ala Phe Val Ile
                20                  25                  30
Ile Phe Leu Glu Arg Asp Arg Arg Thr Ala Ser Ser Thr Trp Ala Trp
            35                  40                  45
Leu Phe Val Leu Phe Val Leu Pro Val Ile Gly Phe Ile Leu Tyr Leu
        50                  55                  60
Phe Leu Gly Arg Thr Val Ser Lys Lys Lys Met Glu Lys Asn Asn Gly
65                  70                  75                  80
Asp Glu Leu His Ala Phe Glu Asp Leu Val Gln Asp Gln Ile Asp Ser
                85                  90                  95
Phe Asp Lys His Asn Tyr Gly Tyr Ile Asn Asp Gln Val Ile Lys His
            100                 105                 110
Arg Asp Leu Ile Arg Met Leu Leu Met Lys Gln Asp Ala Phe Leu Thr
            115                 120                 125
Glu Asn Asn Lys Ile Asp Leu Phe Thr Asp Gly His Lys Leu Tyr Glu
        130                 135                 140
Lys Val Leu Glu Asp Ile Tyr Asn Ala Gln Asp Tyr Ile His Leu Glu
145                 150                 155                 160
Tyr Tyr Thr Phe Glu Leu Asp Gly Leu Gly Lys Arg Ile Leu Asp Ala
                165                 170                 175
Leu Glu Thr Lys Leu Lys Glu Gly Leu Glu Val Lys Leu Leu Tyr Asp
                180                 185                 190
Asp Val Gly Ser Lys Lys Val Arg Leu Ser Lys Phe Lys His Phe Arg
            195                 200                 205
Ala Leu Gly Gly Glu Val Glu Ala Phe Phe Pro Ser Lys Val Pro Leu
        210                 215                 220
Ile Asn Phe Arg Met Asn Asn Arg Asn His Arg Lys Ile Ile Ile Ile
225                 230                 235                 240
Asp Gly Gln Ile Gly Tyr Val Gly Gly Phe Asn Val Gly Asp Asp Tyr
                245                 250                 255
Leu Gly Leu Gly Lys Leu Gly Tyr Trp Arg Asp Thr His Thr Arg Val
            260                 265                 270
Gln Gly Glu Cys Ile Asp Ala Leu Gln Leu Arg Phe Ile Leu Asp Trp
            275                 280                 285
Asn Ser Gln Ser His Arg Pro Gln Phe Lys Phe Asp Gln Lys Tyr Phe
        290                 295                 300
Pro Lys Lys Asn Gly Asp Lys Gly Asn Ala Ala Ile Gln Ile Ala Ser
305                 310                 315                 320
Ser Gly Pro Ala Phe Asp Leu His Gln Ile Glu Tyr Gly Tyr Thr Lys
                325                 330                 335
Met Ile Met Ser Ala Lys Lys Ser Ile Tyr Leu Gln Ser Pro Tyr Phe
                340                 345                 350
```

```
Ile Pro Asp Gln Ser Tyr Ile Asn Ala Leu Lys Met Ala Ala Asn Ser
        355                 360                 365
Gly Val Glu Val Asn Leu Met Ile Pro Cys Lys Pro Asp His Pro Phe
        370                 375                 380
Val Tyr Trp Ala Thr Phe Ser Asn Ala Ala Asp Leu Leu Asp Ser Gly
385                     390                 395                 400
Val Asn Ile Tyr Thr Tyr Gln Asn Gly Phe Ile His Ser Lys Ile Leu
                405                 410                 415
Met Ile Asp Asp Glu Ile Ser Ser Ile Gly Ser Ala Asn Met Asp Phe
        420                 425                 430
Arg Ser Phe Glu Leu Asn Phe Glu Val Asn Ala Phe Ile Tyr Asp Glu
        435                 440                 445
Asp Ile Ala Lys Gln Leu Arg Gln Ala Phe Glu Lys Asp Ile Glu Gln
        450                 455                 460
Ser Lys Leu Leu Thr Lys Glu Val Tyr Asp Lys Arg Pro Leu Ser Ile
465                 470                 475                 480
Lys Phe Lys Glu Gly Leu Ala Lys Leu Ile Ser Pro Ile Leu
                485                 490
```

```
<210> 4380
<211> 145
<212> PRT
<213> S.epidermidis

<400> 4380
Ile Glu Leu Val Lys Leu Arg Asp Asp Val Gly Glu Leu Pro Ala Ala
1               5                   10                  15
Lys Glu Thr Ile Ile Val Ser Pro Ile Ala Leu Asp Ile Pro Asn Thr
                20                  25                  30
Ile Glu Ala Thr Thr Pro Glu Val Ala Ala Gly Asn Thr Thr Phe Val
        35                  40                  45
Ala Thr Ser Asn Leu Val Ala Pro Asn Pro Asn Ala Pro Ser Arg Ile
        50                  55                  60
Leu Ser Gly Thr Asp Asp Ile Ala Ser Ser Leu Ile Leu Val Ile Ile
65                  70                  75                  80
Gly Thr Ile Ile Ile Pro Thr Thr Ile Pro Gly Leu Ile Glu Leu Asn
                85                  90                  95
Ser Pro Lys Leu Gly Ile Arg Phe Leu Asn Ile Gly Val Thr Asn Val
                100                 105                 110
Lys Ala Lys Lys Pro Asn Thr Ile Val Gly Ile Pro Ala Lys Ile Ser
        115                 120                 125
Asn Ile Gly Leu Met Ile Leu Arg Glu Arg Ser Asp Ala Tyr Ser Leu
        130                 135                 140
Arg
145
```

```
<210> 4381
<211> 115
<212> PRT
<213> S.epidermidis

<400> 4381
Cys Leu Ile Val Leu Asn Leu Val Leu Ile Lys Val Val Ile Ile Leu
1               5                   10                  15
Ala Met Thr Asn Arg Glu Lys Phe Lys Val Leu Ala Asp Gln Ile Lys
                20                  25                  30
```

```
Ile Ser Asn Gln Leu Glu Gln Asp Ile Leu Glu Gln Gly Glu Leu Thr
        35                  40                  45
Arg Ile Asp Val Ser Asn Lys Asn Arg Thr Trp Thr Phe Gln Ile Ser
    50                  55                  60
Leu Pro His Phe Leu Ser His Glu Asp Tyr Leu Leu Phe Thr His Ala
65                  70                  75                  80
Ile Glu Glu Glu Phe Lys Glu Ile Ala Thr Val Ala Ile Asp Phe Ser
                85                  90                  95
Ile Lys Asp Thr Asn Asn Gln Asp Glu Phe Arg Phe Lys Ile Phe Arg
                100                 105                 110
Thr Leu Tyr
        115


<210> 4382
<211> 357
<212> PRT
<213> S.epidermidis


<400> 4382
Leu Ser Val Val Gly Gly Leu Val Leu Asp Asn Glu Arg Gln Lys Ala
1               5                   10                  15
Leu Asp Thr Val Ile Lys Asn Met Glu Lys Ser Phe Gly Lys Gly Ala
            20                  25                  30
Val Met Lys Leu Gly Asp Asn Lys Gly Arg Arg Val Ser Ser Thr Ser
        35                  40                  45
Ser Gly Ser Val Thr Val Asp Asn Ala Leu Gly Val Gly Gly Tyr Pro
    50                  55                  60
Lys Gly Arg Ile Ile Glu Ile Tyr Gly Pro Glu Ser Ser Gly Lys Thr
65                  70                  75                  80
Thr Val Ala Leu His Ala Ile Ala Glu Val Gln Lys Asn Gly Gly Val
                85                  90                  95
Ala Ala Phe Ile Asp Ala Glu His Ala Leu Asp Pro Val Tyr Ala Gln
                100                 105                 110
Ala Leu Gly Val Asp Ile Asp Asn Leu Tyr Leu Ser Gln Pro Asp His
        115                 120                 125
Gly Glu Gln Gly Leu Glu Ile Ala Glu Ala Phe Val Arg Ser Gly Ala
    130                 135                 140
Val Asp Ile Val Val Val Asp Ser Val Ala Ala Leu Thr Pro Lys Ala
145                 150                 155                 160
Glu Ile Glu Gly Glu Met Gly Asp Thr His Val Gly Leu Gln Ala Arg
                165                 170                 175
Leu Met Ser Gln Ala Leu Arg Lys Leu Ser Gly Ala Ile Ser Lys Ser
            180                 185                 190
Asn Thr Thr Ala Ile Phe Ile Asn Gln Ile Arg Glu Lys Val Gly Val
        195                 200                 205
Met Phe Gly Asn Pro Glu Thr Thr Pro Gly Gly Arg Ala Leu Lys Phe
    210                 215                 220
Tyr Ser Ser Val Arg Leu Glu Val Arg Arg Ala Glu Gln Leu Lys Gln
225                 230                 235                 240
Gly Gln Asp Ile Val Gly Asn Arg Thr Lys Ile Lys Val Val Lys Asn
            245                 250                 255
Lys Val Ala Pro Pro Phe Arg Val Ala Glu Val Asp Ile Met Tyr Gly
        260                 265                 270
Gln Gly Ile Ser Lys Glu Gly Glu Leu Ile Asp Leu Gly Val Glu Asn
    275                 280                 285
Asp Ile Val Asp Lys Ser Gly Ala Trp Tyr Ser Tyr Asn Gly Asp Arg
```

```
                290                    295                    300
Met Gly Gln Gly Lys Glu Asn Val Lys Asn Tyr Leu Lys Glu Asn Pro
305                    310                    315                    320
Gln Ile Lys Glu Glu Ile Asp Arg Lys Leu Arg Glu Lys Leu Gly Ile
                325                    330                    335
Phe Asp Gly Asp Val Asp Glu Asn Glu Asn Glu Asp Asp Ser Pro Lys
                340                    345                    350
Thr Leu Phe Asp Glu
                355
```

<210> 4383
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4383

```
Lys Asn Gly Phe Phe Phe His Leu Phe Leu Phe His Phe Ser Leu Asn
1                5                     10                     15
Ser Pro Arg Leu Lys Asn Thr Ser Ile Tyr Phe Leu Ile Tyr Cys Lys
                20                     25                     30
Asn Lys Leu Lys Asn Thr Ile Phe Ile Leu Pro Gln Ile Thr Ile Leu
                35                     40                     45
```

<210> 4384
<211> 535
<212> PRT
<213> S.epidermidis

<400> 4384

```
Met Leu Gln Val Thr Asp Val Ser Leu Arg Phe Gly Asp Arg Lys Leu
1                5                     10                     15
Phe Glu Asp Val Asn Ile Lys Phe Thr Glu Gly Asn Cys Tyr Gly Leu
                20                     25                     30
Ile Gly Ala Asn Gly Ala Gly Lys Ser Thr Phe Leu Lys Ile Leu Ser
                35                     40                     45
Gly Glu Ile Asp Ser Gln Thr Gly His Val Ser Leu Gly Lys Asp Glu
        50                     55                     60
Arg Leu Ala Val Leu Lys Gln Asp His Phe Ala Tyr Glu Asp Glu Arg
65                     70                     75                     80
Val Leu Asp Val Val Ile Lys Gly His Glu Arg Leu Tyr Gln Val Met
                85                     90                     95
Lys Glu Lys Asp Glu Ile Tyr Met Lys Pro Asp Phe Ser Asp Glu Asp
                100                    105                    110
Gly Ile Arg Ala Ala Glu Leu Glu Gly Glu Phe Ala Glu Met Asn Gly
                115                    120                    125
Trp Asn Ala Glu Ala Asp Ala Ala Asn Leu Leu Ser Gly Leu Gly Ile
        130                    135                    140
Glu Pro Asp Leu His Asp Lys Asn Met Ser Glu Leu Glu Asn Asn Gln
145                    150                    155                    160
Lys Val Lys Val Leu Leu Ala Gln Ser Leu Phe Gly Asp Pro Asp Val
                165                    170                    175
Leu Leu Leu Asp Glu Pro Thr Asn Gly Leu Asp Ile Pro Ala Ile Ser
                180                    185                    190
Trp Leu Glu Asp Phe Leu Ile Asn Phe Glu Asn Thr Val Ile Val Val
                195                    200                    205
Ser His Asp Arg His Phe Leu Asn Asn Val Cys Thr His Ile Ala Asp
```

```
        210                    215                    220
Leu Asp Phe Gly Lys Ile Lys Leu Tyr Val Gly Asn Tyr Asp Phe Trp
225                    230                    235                    240
Tyr Gln Ser Ser Gln Leu Ala Gln Lys Met Ala Gln Glu Gln Asn Lys
                   245                    250                    255
Lys Lys Glu Glu Lys Met Lys Glu Leu Gln Asp Phe Ile Ala Arg Phe
                   260                    265                    270
Ser Ala Asn Ala Ser Lys Ser Lys Gln Ala Thr Ser Arg Lys Lys Gln
                   275                    280                    285
Leu Glu Lys Ile Glu Leu Asp Asp Ile Gln Pro Ser Ser Arg Arg Tyr
                   290                    295                    300
Pro Tyr Val Lys Phe Thr Pro Glu Arg Glu Ile Gly Asn Asp Leu Leu
305                    310                    315                    320
Thr Val Glu Asn Leu Ser Lys Thr Ile Asp Gly Glu Lys Val Leu Asp
                   325                    330                    335
Asn Val Ser Phe Thr Met Asn Pro Asn Asp Lys Ala Ile Leu Val Gly
                   340                    345                    350
Asp Ser Glu Ile Ala Lys Thr Thr Leu Leu Lys Ile Leu Ala Gly Glu
                   355                    360                    365
Met Glu Pro Asp Glu Gly Thr Phe Lys Trp Gly Val Thr Thr Ser Leu
                   370                    375                    380
Ser Tyr Phe Pro Lys Asp Asn Ser Glu Phe Phe Asp Gly Val Asp Met
385                    390                    395                    400
Asn Leu Val Glu Trp Leu Arg Gln Tyr Ala Pro Glu Asp Glu Gln Thr
                   405                    410                    415
Glu Thr Phe Leu Arg Gly Phe Leu Gly Arg Met Leu Phe Ser Gly Glu
                   420                    425                    430
Glu Val Lys Lys Lys Ala Ser Val Leu Ser Gly Gly Glu Lys Val Arg
                   435                    440                    445
Cys Met Leu Ser Lys Met Met Leu Ser Ser Ala Asn Val Leu Leu Leu
                   450                    455                    460
Asp Glu Pro Thr Asn His Leu Asp Leu Glu Ser Ile Thr Ala Val Asn
465                    470                    475                    480
Asp Gly Leu Lys Ser Phe Lys Gly Ser Ile Ile Phe Thr Ser Tyr Asp
                   485                    490                    495
Phe Glu Phe Ile Asn Thr Ile Ala Asn Arg Val Ile Asp Leu Asn Gln
                   500                    505                    510
Ala Gly Ala Leu Ser Lys Glu Val Pro Tyr Glu Glu Tyr Leu Gln Glu
                   515                    520                    525
Ile Gly Val Leu Gln Asn Asn
530                    535

<210> 4385
<211> 261
<212> PRT
<213> S.epidermidis

<400> 4385
Lys Met Lys Val Arg Thr Leu Thr Ala Ile Ile Ala Leu Leu Ile Phe
1                    5                    10                    15
Leu Pro Ile Leu Leu Lys Gly Gly Leu Ile Leu Met Leu Phe Ala Phe
                   20                    25                    30
Leu Leu Ala Leu Ile Ala Leu Lys Glu Leu Leu Asn Met Asn Met Ile
                   35                    40                    45
Lys Phe Leu Ser Ile Pro Gly Leu Ile Ser Ala Leu Ala Leu Ile Ile
                   50                    55                    60
```

```
Ile Met Leu Pro Gln Asp Ala Gly Glu Trp Val Gln Val Ile Gln Leu
65                  70                  75                  80
Lys Gly Leu Ile Ala Met Ser Phe Ile Val Leu Ser Tyr Thr Val Leu
                85                  90                  95
Ser Lys Asn Arg Phe Ser Phe Met Asp Ala Ala Phe Cys Leu Met Ser
                100                 105                 110
Val Ala Tyr Val Gly Ile Gly Phe Met Tyr Phe Tyr Glu Thr Arg Ser
                115                 120                 125
Glu Gly Leu Arg Tyr Ile Leu Phe Ala Phe Leu Ile Val Trp Leu Thr
        130                 135                 140
Asp Thr Gly Ala Tyr Ile Phe Gly Arg Leu Met Gly Lys His Lys Leu
145                 150                 155                 160
Trp Pro Val Ile Ser Pro Asn Lys Thr Ile Glu Gly Phe Phe Gly Gly
                165                 170                 175
Ile Leu Cys Ser Ile Leu Val Pro Leu Val Met Gln Met Phe Val Asp
                180                 185                 190
Leu His Met Asn Ile Trp Leu Leu Leu Leu Val Thr Ile Val Leu Ser
                195                 200                 205
Met Phe Gly Gln Leu Gly Asp Leu Val Glu Ser Gly Phe Lys Arg His
        210                 215                 220
Phe Gly Val Lys Asp Ser Gly Arg Ile Leu Pro Gly His Gly Gly Ile
225                 230                 235                 240
Leu Asp Arg Phe Asp Ser Phe Met Phe Val Leu Pro Leu Leu Asn Ile
                245                 250                 255
Leu Leu Ile Gln Thr
                260
```

```
<210> 4386
<211> 247
<212> PRT
<213> S.epidermidis

<400> 4386
Ile Lys Gly Val Ile Gln Leu Met Val Gln His Leu Ser Ala Gln Glu
1               5                   10                  15
Ile Ile Gln Tyr Ile Ser Asp Ala Lys Lys Ser Thr Pro Leu Lys Val
                20              ,       25                  30
Tyr Val Asn Gly His Phe Glu Asn Val Thr Phe Pro Glu Ser Phe Lys
                35                  40                  45
Val Phe Gly Ser Glu His Ser Lys Val Ile Phe Cys Glu Ala Asp Glu
        50                  55                  60
Trp Lys Gln Phe Tyr Gln Gln Asn His Ser Leu Ile Thr Glu Leu Glu
65                  70                  75                  80
Ile Glu Met Asp Arg Arg Asn Ser Ala Ile Pro Leu Lys Asp Leu Thr
                85                  90                  95
Asn Thr Asn Ala Arg Ile Glu Pro Gly Ala Phe Ile Arg Glu Gln Ala
                100                 105                 110
Ile Ile Glu Asp Gly Ala Val Val Met Met Gly Ala Thr Ile Asn Ile
        115                 120                 125
Gly Ala Ile Val Gly Glu Gly Thr Met Ile Asp Met Asn Ala Thr Leu
        130                 135                 140
Gly Gly Arg Ala Thr Thr Gly Lys Asn Val His Val Gly Ala Gly Ala
145                 150                 155                 160
Val Leu Ala Gly Val Ile Glu Pro Pro Ser Ala Ser Pro Val Val Ile
                165                 170                 175
Glu Asp Asn Val Leu Ile Gly Ala Asn Ala Val Ile Leu Glu Gly Val
```

```
              180                   185                   190
Arg Val Gly Ala Gly Ala Ile Val Ala Ala Gly Ala Ile Val Thr Gln
          195                   200                   205
Asp Val Pro Ala Gly Ala Val Val Ala Gly Thr Pro Ala Lys Val Ile
      210                   215                   220
Lys Gln Thr Ser Glu Val Gln Asp Ser Lys Arg Glu Ile Val Ser Ala
225                   230                   235                   240
Leu Arg Lys Leu Asn Asn Glu
                      245


<210> 4387
<211> 85
<212> PRT
<213> S.epidermidis


<400> 4387
Ile Lys Gly Val Leu Thr Met Ile Ala Asn Glu Asn Ile Gln Asp Gln
1               5                   10                  15
Ala Leu Glu Asn Phe Lys Ser Glu Lys Thr Glu Val Thr Ile Phe Phe
          20                  25                  30
Leu Asn Gly Phe Gln Met Lys Gly Val Val Glu Asn Tyr Asp Lys Tyr
          35                  40                  45
Val Val Ser Leu Asn Ser Gln Gly Lys Gln His Leu Ile Tyr Lys His
      50                  55                  60
Ala Ile Ser Thr Phe Thr Val Asp Asn Glu Ser Ser Glu Ala Thr Glu
65                  70                  75                  80
Val Asn Ser Glu Glu
                85


<210> 4388
<211> 183
<212> PRT
<213> S.epidermidis


<400> 4388
Cys Arg Gly Val Leu Ile Met Lys Glu Asn Ile Leu Pro Ala Ile Arg
1               5                   10                  15
Asn Met Arg Asp Leu Glu Lys Leu Ile Lys Thr Asp Tyr Lys Ala Cys
          20                  25                  30
Val Val Leu Asp Met His Ile Gly His Leu Lys Ser Ile Met Glu Leu
          35                  40                  45
Leu Lys Ser His Ser Ile Glu Cys Tyr Val His Ile Asp Leu Ile Lys
      50                  55                  60
Gly Leu Ser His Asp Glu Phe Ala Cys Glu Tyr Ile Ile Gln Gln Tyr
65                  70                  75                  80
Lys Pro Lys Gly Ile Val Ser Thr Lys Ala Lys Val Ile Lys Lys Ala
              85                  90                  95
Lys Met Leu Asn Thr Leu Thr Ile Phe Arg Val Phe Ile Ile Asp Ser
          100                 105                 110
Gln Ala Leu Thr Arg Ser Ile Glu Leu Ile Lys Lys Val Glu Pro Asp
          115                 120                 125
Tyr Val Glu Val Leu Pro Gly Val Ala Ser Lys Ala Val Ser Lys Ile
      130                 135                 140
Gln Gln Glu Thr Ser Ala Ser Val Ile Ala Gly Gly Leu Ile Asp Glu
145                 150                 155                 160
Gln Ser Glu Ile Arg Glu Ala Ile Ser Asn Gly Ala Lys Tyr Val Thr
```

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                 165                     170                      175
Thr Ser Tyr Glu Lys Leu Trp
            180


<210> 4389
<211> 728
<212> PRT
<213> S.epidermidis


<400> 4389
Met Asn Met Val Arg Ser Asp Tyr Met Ser Lys Lys Arg Ile Tyr Glu
1               5                   10                  15
Tyr Ala Lys Glu Leu Asn Leu Lys Ser Lys Glu Ile Ile Asp Glu Leu
            20                  25                  30
Lys Ser Met Asn Val Glu Val Ser Asn His Met Gln Ala Leu Glu Glu
            35                  40                  45
Glu Gln Ile Lys Ala Leu Asp Lys Lys Phe Lys Ala Ser Gln Ala Lys
    50                  55                  60
Asp Thr Asn Lys Gln Asn Thr Gln Asn Asn His Gln Lys Ser Asn Asn
65                  70                  75                  80
Lys Gln Asn Ser Asn Asp Lys Glu Lys Gln Gln Ser Lys Asn Asn Ser
            85                  90                  95
Lys Pro Thr Lys Lys Lys Glu Gln Asn Asn Lys Gly Lys Gln Gln Asn
            100                 105                 110
Lys Asn Asn Lys Thr Asn Lys Asn Gln Lys Asn Asn Lys Asn Lys Lys
            115                 120                 125
Asn Asn Lys Asn Asn Lys Pro Gln Asn Glu Val Ala Glu Thr Lys Glu
    130                 135                 140
Met Pro Ser Lys Ile Thr Tyr Gln Glu Gly Ile Thr Val Gly Glu Leu
145                 150                 155                 160
Ala Glu Lys Leu Asn Val Glu Ser Ala Gly Ile Ile Lys Lys Leu Phe
            165                 170                 175
Leu Leu Gly Ile Met Ala Asn Ile Asn Gln Ser Leu Asp Glu Glu Thr
            180                 185                 190
Leu Glu Leu Ile Ala Asp Asp Tyr Gly Val Glu Ile Glu Lys Glu Val
            195                 200                 205
Val Val Asp Glu Glu Asp Leu Ser Ile Tyr Phe Asp Asp Glu Thr Asp
    210                 215                 220
Asp Ser Asp Ala Ile Glu Arg Pro Ala Val Val Thr Ile Met Gly His
225                 230                 235                 240
Val Asp His Gly Lys Thr Thr Leu Leu Asp Ser Ile Arg Asn Thr Lys
            245                 250                 255
Val Thr Glu Gly Glu Ala Gly Gly Ile Thr Gln His Ile Gly Ala Tyr
            260                 265                 270
Gln Ile Glu Asn Ser Gly Lys Lys Ile Thr Phe Leu Asp Thr Pro Gly
            275                 280                 285
His Ala Ala Phe Thr Thr Met Arg Ala Arg Gly Ala Gln Val Thr Asp
    290                 295                 300
Ile Thr Ile Leu Val Val Ala Ala Asp Asp Gly Val Met Pro Gln Thr
305                 310                 315                 320
Ile Glu Ala Ile Asn His Ala Lys Glu Ala Glu Val Pro Thr Ile Val
            325                 330                 335
Ala Val Asn Lys Ile Asp Lys Pro Thr Ala Asn Pro Asp Arg Val Met
            340                 345                 350
Gln Glu Leu Thr Glu Tyr Gly Leu Ile Pro Glu Asp Trp Gly Gly Asp
            355                 360                 365
```

Thr Ile Phe Val Pro Leu Ser Ala Leu Ser Gly Asp Gly Ile Asp Asp
    370   375   380

Leu Leu Glu Met Ile Gly Leu Val Ala Glu Val Gln Glu Leu Lys Ala
385   390   395   400

Asn Pro Asn Lys Gln Ala Val Gly Thr Val Ile Glu Ala Glu Leu Asp
            405   410   415

Lys Ser Arg Gly Pro Ala Ala Ser Leu Leu Val Gln Asn Gly Thr Leu
        420   425   430

Asn Val Gly Asp Ala Ile Val Val Gly Asn Thr Tyr Gly Arg Ile Arg
        435   440   445

Ala Met Val Asn Asp Leu Gly Lys Arg Ile Lys Ser Ala Gly Pro Ser
    450   455   460

Thr Pro Val Glu Ile Thr Gly Ile Asn Asp Val Pro Leu Ala Gly Asp
465   470   475   480

Arg Phe Val Val Phe Gly Asp Glu Lys Gln Ala Arg Arg Ile Gly Glu
            485   490   495

Ala Arg His Glu Ala Ser Val Ile Gln Gln Arg Gln Glu Ser Lys Asn
        500   505   510

Val Ser Leu Asp Asn Leu Phe Glu Gln Met Lys Gln Gly Glu Met Lys
        515   520   525

Asp Leu Asn Val Ile Ile Lys Gly Asp Val Gln Gly Ser Val Glu Ala
    530   535   540

Leu Ala Ala Ser Leu Met Lys Ile Asp Val Glu Gly Val Asn Val Arg
545   550   555   560

Ile Ile His Thr Ala Val Gly Ala Ile Asn Glu Ser Asp Val Thr Leu
            565   570   575

Ala Asn Ala Ser Asn Gly Ile Ile Ile Gly Phe Asn Val Arg Pro Asp
        580   585   590

Ala Gly Ala Lys Arg Ala Ala Glu Ala Glu Asn Val Asp Met Arg Leu
        595   600   605

His Arg Val Ile Tyr Asn Val Ile Glu Glu Ile Glu Ser Ala Met Lys
    610   615   620

Gly Leu Leu Asp Pro Glu Phe Glu Glu Gln Val Ile Gly Gln Ala Glu
625   630   635   640

Val Arg Gln Thr Phe Lys Val Ser Lys Val Gly Thr Ile Ala Gly Ser
            645   650   655

Tyr Val Thr Glu Gly Lys Ile Thr Arg Asn Ala Gly Val Arg Val Ile
            660   665   670

Arg Asp Gly Ile Val Leu Phe Glu Gly Glu Leu Asp Thr Leu Lys Arg
        675   680   685

Phe Lys Asp Asp Ala Lys Glu Val Ala Gln Gly Tyr Glu Cys Gly Ile
        690   695   700

Thr Ile Glu Lys Tyr Asn Asp Leu Lys Glu Gly Asp Ile Ile Glu Ala
705   710   715   720

Phe Glu Met Val Glu Ile Gln Arg
                725

<210> 4390
<211> 266
<212> PRT
<213> S.epidermidis

<400> 4390
Leu Phe Gln Val Val Glu Ile Lys Ile Trp Lys Gln Leu Asn Asn Thr
1   5   10   15

Lys Lys Thr Val Val Asn Lys Met Ser Lys Leu Phe Ile Pro Tyr Ile

```
                 20                        25                        30
Met Gly Asp Leu Asn Phe Ile His His Leu Lys Thr Leu Thr Glu Asn
             35                        40                        45
Gly Ala Asp Ile Val Glu Ile Gly Val Pro Phe Ser Asp Pro Val Ala
         50                        55                        60
Asp Gly Pro Ile Ile Met Lys Ala Gly Arg Asn Ala Ile Asp Glu Gly
65                        70                        75                        80
Ser Asn Ile Lys Phe Ile Phe Asp Glu Leu Ile Lys Asn Lys Asn Thr
                 85                        90                        95
Ile Ser Ser Lys Tyr Val Leu Met Thr Tyr Tyr Asn Ile Leu Ser Ala
             100                       105                       110
Tyr Gly Glu Glu Leu Phe Leu Asp Lys Cys Asp Glu Ala Gly Val Tyr
         115                       120                       125
Gly Leu Ile Ile Pro Asp Leu Pro Tyr Glu Leu Thr Lys Lys Phe Lys
         130                       135                       140
Lys Asp Phe Tyr His His Ser Val Lys Ile Ile Ser Leu Ile Ala Met
145                       150                       155                       160
Thr Ala Ser Asp Ala Arg Ile Met Gln Ile Ala Lys Asn Ser Glu Gly
                 165                       170                       175
Phe Ile Tyr Thr Val Thr Met Asn Ala Thr Thr Gly Asn Ser Gly Glu
             180                       185                       190
Phe His Pro Asp Leu Lys Arg Lys Ile Glu Tyr Ile Lys Lys Val Ser
             195                       200                       205
Lys Ile Pro Val Val Ala Gly Phe Gly Ile Lys Asn Pro Glu His Val
         210                       215                       220
Lys Asp Ile Ala Ser Val Ala Asp Gly Ile Val Ile Gly Ser Glu Ile
225                       230                       235                       240
Val Lys Arg Ile Glu Ile Asp Ser Arg Lys Glu Phe-Ile Thr Tyr Ile
                 245                       250                       255
Lys Ser Ile Arg Thr Thr Leu Asn Ser Leu
             260                       265
```

<210> 4391
<211> 226
<212> PRT
<213> S.epidermidis

<400> 4391

```
Phe Glu Glu Val Tyr Ile Phe Met Ser Lys Lys Val Leu Phe Val Leu
1                   5                        10                        15
Thr Ser Thr Ser Gln Phe Thr Asp Gly Thr Glu Thr Gly Leu Trp Leu
             20                        25                        30
Glu Glu Ala Gly Ala Pro Tyr Asn Ile Leu Thr Glu Glu Gly Ile Asn
         35                        40                        45
Val Asp Val Ile Ser Ile Lys Gly Gly Lys Val Asn Leu Asp Pro Asn
         50                        55                        60
Ser Val Ser Asn Glu Ser Leu Asn Gln Tyr Ala Lys Phe Val Ser His
65                        70                        75                        80
Leu Asn Asp Thr Pro Ser Ile Glu Asn Val Asn Ala Asp Glu Tyr Asp
                 85                        90                        95
Ala Ile Tyr Leu Pro Gly Gly His Gly Thr Val Tyr Asp Phe Ala Asn
             100                       105                       110
Asn Glu Lys Leu Ala Asp Ile Leu Leu Gln Phe Lys Asn Ser Asn Lys
         115                       120                       125
Ile Ile Ser Ser Val Cys His Gly Pro Ser Ala Phe Val Gly Val Lys
         130                       135                       140
```

```
Asp Ala Asn Asn His Tyr Leu Val Asp Gly Val Lys Ile Thr Ser Phe
145                 150                 155                 160
Thr Asp Ser Glu Glu Lys Ala Met Gly Phe Glu Asn Lys Val Pro Phe
                165                 170                 175
Leu Thr Gln Ser Lys Leu Glu Glu Gln Gly Ala Asn Phe Val Val Lys
                180                 185                 190
Asp Asp Phe Thr Ser His Val Glu Lys Asp Gly Gln Phe Ile Thr Gly
                195                 200                 205
Gln Asn Pro Gln Ser Ser Glu Asp Ile Gly Lys Ala Leu Ala Asn Glu
        210                 215                 220
Leu Lys
225
```

```
<210> 4392
<211> 126
<212> PRT
<213> S.epidermidis

<400> 4392
Ile Asn Leu Phe Phe Ser Ile Leu Thr Leu Leu Glu Leu Arg Ile Asp
1               5                   10                  15
Val Tyr Leu Ala Asn Leu Leu Ile Ile Leu Val Pro Ser Ile Thr Ser
            20                  25                  30
Ala Ile Leu Ile Ile Phe Thr Ser Lys Met Lys Leu Tyr Leu Trp Leu
            35                  40                  45
Asn Val Ile Ser Asn Leu Ile Phe Tyr Ile Ile Tyr Ser Lys Tyr Ile
        50                  55                  60
Met His Leu Asp Gly Tyr Leu Ser Tyr Ile Glu Arg Ala Gln Ile Asn
65                  70                  75                  80
Asn Ser Asp Ile Glu Ile Lys Ile Ser Pro Asn Met Leu Glu Leu Ser
                85                  90                  95
Gln Ile Ile Phe Leu Phe Phe Val Tyr Leu Ile Pro Gln Met Ile Val
            100                 105                 110
Val Phe Ile Lys His Lys Arg Gly Glu Ile Asn Ala Arg Ile
        115                 120                 125
```

```
<210> 4393
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4393
Ile Thr Val Phe Ile Ala Phe Tyr Ile Leu Gly Asn Leu Ser Asp Thr
1               5                   10                  15
Lys Lys Leu Asn Ile Ser Val Leu Leu Ile Asn Leu Ile Ile Arg Leu
            20                  25                  30
Pro Ile Arg His Thr His Leu Arg Tyr Gln Leu Ile Thr Gln Val Phe
            35                  40                  45
Phe Tyr Val
        50
```

```
<210> 4394
<211> 81
<212> PRT
<213> S.epidermidis
```

<400> 4394

```
Leu Leu Val Phe Leu Tyr Thr Leu Tyr Leu Arg Tyr Trp Phe His Thr
1               5                   10                  15
Tyr Leu Cys Tyr Leu Asn Glu Asp Thr Ile Ala Thr Met Glu Met Met
            20                  25                  30
Leu Val Ser Thr Leu Ser Leu Lys Lys Lys Lys Glu Leu Asn Asn Asn
        35                  40                  45
Ile Tyr Asn Phe Arg Leu Glu Gln Gln Asn Asn Asn Val Pro Val Phe
    50                  55                  60
Phe Ile Phe Lys Ser His Thr Phe Ala Ile Met Ile Cys Leu Val Ile
65                  70                  75                  80
Ile
```


<210> 4395
<211> 558
<212> PRT
<213> S.epidermidis

<400> 4395

```
Ile Met Ser Leu Ser Thr Leu Lys Arg Asp His Ile Lys Lys Asn Leu
1               5                   10                  15
Arg Asp Thr Glu Tyr Asp Val Val Ile Val Gly Gly Gly Ile Thr Gly
            20                  25                  30
Ala Gly Ile Ala Leu Asp Ala Ser Asn Arg Gly Met Lys Val Ala Leu
        35                  40                  45
Val Glu Met Gln Asp Phe Ala Gln Gly Thr Ser Ser Arg Ser Thr Lys
    50                  55                  60
Leu Val His Gly Gly Leu Arg Tyr Leu Lys Gln Leu Gln Val Gly Val
65                  70                  75                  80
Val Ala Glu Thr Gly Lys Glu Arg Ala Ile Val Tyr Glu Asn Gly Pro
            85                  90                  95
His Val Thr Thr Pro Glu Trp Met Leu Leu Pro Met His Lys Gly Gly
            100                 105                 110
Thr Phe Gly Lys Phe Ser Thr Ser Ile Gly Leu Ala Met Tyr Asp Arg
            115                 120                 125
Leu Ala Gly Val Lys Lys Ser Glu Arg Lys Lys Met Leu Ser Lys Gln
    130                 135                 140
Glu Thr Leu Asn Lys Glu Pro Leu Val Lys Arg Asp Gly Leu Lys Gly
145                 150                 155                 160
Gly Gly Tyr Tyr Val Glu Tyr Arg Thr Asp Asp Ala Arg Leu Thr Ile
            165                 170                 175
Glu Val Met Lys Lys Ala Ala Glu Asn Gly Ala Glu Ile Ile Asn Tyr
            180                 185                 190
Thr Lys Ser Glu His Phe Thr Tyr Asp Ser Asn Lys Lys Val Asn Gly
    195                 200                 205
Ile Glu Val Leu Asp Met Ile Asp Gly Glu Thr Tyr Ala Ile Lys Ala
    210                 215                 220
Lys Lys Val Ile Asn Ala Ser Gly Pro Trp Val Asp Glu Val Arg Ser
225                 230                 235                 240
Gly Asp Tyr Ala Arg Asn Asn Lys Gln Leu Arg Leu Thr Lys Gly Val
            245                 250                 255
His Val Val Ile Asp Gln Ser Lys Phe Pro Leu Gly Gln Ala Val Tyr
            260                 265                 270
Phe Asp Thr Glu Lys Asp Gly Arg Met Ile Phe Ala Ile Pro Arg Glu
    275                 280                 285
```

```
Gly Lys Ala Tyr Val Gly Thr Thr Asp Thr Phe Tyr Asp Asn Glu Lys
    290                 295             300
Ala Thr Pro Leu Thr Thr Gln Glu Asp Arg Asp Tyr Leu Ile Asn Ala
305             310             315                 320
Ile Asn Tyr Met Phe Pro Thr Val Asn Val Lys Asp Glu Asp Ile Glu
            325             330             335
Ser Thr Trp Ala Gly Ile Arg Pro Leu Ile Leu Glu Lys Gly Lys Asp
            340             345             350
Pro Ser Glu Ile Ser Arg Lys Asp Glu Val Trp Glu Gly Glu Ser Gly
            355             360             365
Leu Leu Thr Ile Ala Gly Gly Lys Leu Thr Gly Tyr Arg His Met Ala
            370             375             380
Leu Glu Ile Val Asp Leu Leu Ala Lys Arg Leu Lys Gln Glu Tyr Gly
385             390             395                 400
Leu Lys Phe Glu Ser Cys Ala Thr Lys Asn Leu Lys Ile Ser Gly Gly
            405             410             415
Asp Val Gly Gly Ser Lys Asn Phe Glu His Phe Val Glu Gln Lys Val
            420             425             430
Asp Ala Ala Lys Gly Phe Gly Ile Asp Glu Asp Val Ala Arg Arg Leu
            435             440             445
Ala Ser Lys Tyr Gly Ser Asn Val Asp Gln Leu Phe Asn Ile Ala Gln
    450             455             460
Thr Ala Pro Tyr His Asp Ser Lys Leu Pro Leu Glu Ile Tyr Val Glu
465             470             475                 480
Leu Val Tyr Ser Ile Gln Gln Glu Met Val Tyr Lys Pro Thr Asp Phe
            485             490             495
Leu Val Arg Arg Ser Gly Lys Leu Tyr Phe Asn Ile Gln Asp Val Leu
            500             505             510
Asp Tyr Lys Asn Ala Val Ile Asp Val Met Ala Asp Met Leu Asn Tyr
            515             520             525
Ser Glu Thr Gln Lys Glu Ala Tyr Thr Glu Glu Val Glu Val Ala Ile
    530             535             540
Asp Glu Ala Arg Thr Gly Asn Asp Gln Pro Ala Thr Lys Ala
545             550             555
```

<210> 4396
<211> 288
<212> PRT
<213> S.epidermidis

<400> 4396

```
Leu Ala Thr Phe Lys Asp Phe Arg Asn Asn Val Lys Pro Asn Trp Cys
1               5               10              15
Pro Gly Cys Gly Asp Phe Ser Val Gln Ala Ala Ile Gln Lys Ala Thr
            20              25              30
Ala Asn Ile Gly Leu Glu Pro Glu Asp Val Ala Ile Ile Thr Gly Ile
            35              40              45
Gly Cys Ser Gly Arg Leu Ser Gly Tyr Ile Asn Ser Tyr Gly Val His
    50              55              60
Ser Ile His Gly Arg Ala Leu Pro Leu Ala Gln Gly Val Lys Met Ala
65              70              75              80
Asn Lys Asp Leu Thr Val Ile Ala Ser Gly Gly Asp Gly Asp Gly Tyr
            85              90              95
Ala Ile Gly Met Gly His Thr Ile His Ala Leu Arg Arg Asn Met Asn
            100             105             110
Met Thr Tyr Ile Val Met Asp Asn Gln Ile Tyr Gly Leu Thr Lys Gly
```

```
          115                 120                 125
Gln Thr Ser Pro Ser Ser Ala Lys Gly Phe Val Thr Lys Ser Thr Pro
      130                 135                 140
Lys Gly Asn Ile Glu Lys Asn Val Ala Pro Leu Glu Leu Ala Leu Ser
145                 150                 155                 160
Ser Gly Ala Thr Phe Val Ala Gln Gly Phe Ser Ser Asp Ile Lys Ala
              165                 170                 175
Leu Thr Lys Met Ile Glu Asp Ala Ile His His Asp Gly Phe Ser Phe
          180                 185                 190
Val Asn Val Phe Ser Pro Cys Val Thr Tyr Asn Lys Val Asn Thr Tyr
          195                 200                 205
Asp Trp Phe Lys Glu His Leu Thr Ser Ile Asp Asp Ile Glu Gly Tyr
      210                 215                 220
Asp Ile Thr Asp Lys Gln Leu Ala Met Lys Thr Val Leu Asp His Glu
225                 230                 235                 240
Ser Leu Val Lys Gly Ile Val Tyr Gln Asp Thr Thr Thr Pro Ser Tyr
              245                 250                 255
Glu Ser Gln Ile Ser Glu Leu Glu His Glu Ala Leu Ala Lys Arg Asp
          260                 265                 270
Ile His Ile Thr Glu Glu Thr Phe Asn Asp Leu Thr Ala Gln Phe Leu
          275                 280                 285
```

<210> 4397
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4397
```
Gln Asn Thr Phe Ile Ser Leu Asn Ser His Ile Lys Ile Lys Lys Leu
1               5                   10                  15
Leu Ala Lys His Leu Ala Leu Ser Ala Ala Phe Tyr Arg Thr Asn Thr
              20                  25                  30
Leu Ser Ser Tyr Met Ile His Phe Asn Phe
          35                  40
```

<210> 4398
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4398
```
Leu Phe Thr Leu Phe Met Tyr Leu Ile Ile Thr Leu Ser Lys Ile Ser
1               5                   10                  15
Phe Val Lys Tyr Phe Ile Tyr Ile Phe Lys Ile Ile Trp Asn Lys Leu
              20                  25                  30
Cys His Ser Tyr Ile Ile Tyr Phe
          35                  40
```

<210> 4399
<211> 212
<212> PRT
<213> S.epidermidis

<400> 4399
```
Asp Asp Phe Ser Glu Val Asn Met Asp Lys Phe Lys Ser Met Thr Glu
1               5                   10                  15
```

```
Leu Lys Glu Leu Thr Lys Glu Gly Lys Asp Trp Glu Ile Glu Cys Glu
            20              25              30
Asn Arg Ser Ser Ile Val Thr Ile Leu Ala Leu His Gly Gly Gly Ile
            35              40              45
Glu Pro Ala Thr Thr Glu Leu Ala Tyr Thr Ile Ala His Cys Gly Asp
    50              55              60
Tyr Asn Tyr Phe Ser Phe Lys Gly Met Arg Ser Lys Gly Asn Asn Glu
65              70              75              80
Leu His Val Thr Ser Thr His Tyr Asp Asp Gln Ile Ala Leu Asp Leu
            85              90              95
Val Arg Gly Ser Gln Arg Thr Val Ala Ile His Gly Cys Glu Gly Asn
            100             105             110
Glu Ser Val Ala Tyr Ile Gly Gly Ser Asp Asp Arg Leu Ile Glu Leu
            115             120             125
Ile Thr Glu Ser Leu Glu Asp Ile Gly Ile Ser Val Arg Glu Ala Pro
    130             135             140
His His Ile Ser Gly Thr Gln Glu Asn Asn Ile Val Asn Met Thr Gln
145             150             155             160
Thr Gln Gly Gly Val Gln Leu Glu Leu Thr Ala Gln Leu Arg Lys Glu
            165             170             175
Leu Phe Lys Asn Arg Lys Ser Ser Arg Lys Asn Arg Glu Asn Lys Asp
            180             185             190
Asn Trp Asp Asp Leu Met Tyr Asp Phe Ala Asp Ala Met Lys Lys Ala
            195             200             205
Ile Glu Arg Ala
    210
```

<210> 4400
<211> 682
<212> PRT
<213> S.epidermidis

<400> 4400
```
Leu Met Lys Phe Ser Trp Val Arg Trp Ile Leu Tyr Ile Val Ala Leu
1               5               10              15
Phe Leu Pro Ile Phe Ile Phe Tyr Thr Val Ala Arg Pro Val Asp Arg
            20              25              30
Asn Asn Arg Asn Met Gly Val Tyr Cys Thr Val Val Ser Cys Val Glu
            35              40              45
Trp Met Ala Ala Ala Thr Val Leu Tyr Phe Ala Ala Leu Ile Val Asp
    50              55              60
Ile His Ile Ser Phe Met Thr Phe Val Arg Ile Phe Val Ile Ala Ala
65              70              75              80
Leu Ser Gly Leu Val Ser Phe Ile Pro Gly Gly Phe Gly Ala Phe Asp
            85              90              95
Leu Val Val Leu Leu Gly Leu Lys Ser Leu Gly Ile Ser Glu Glu Lys
            100             105             110
Ile Leu Leu Ala Leu Val Leu Tyr Arg Phe Ala Tyr Tyr Phe Val Pro
            115             120             125
Val Met Ile Ala Leu Ile Leu Ser Ser Phe Glu Phe Gly Asn Thr Ala
    130             135             140
Lys Lys Tyr Leu Asp Asn Ser Lys Tyr Phe Ile Pro Val Lys Asp Phe
145             150             155             160
Thr Ser Phe Leu Arg Ser Tyr Gln Lys Asp Ile Leu Ala Lys Val Pro
            165             170             175
Ser Phe Ser Leu Ala Ile Leu Ile Phe Leu Thr Ser Ile Ile Phe Phe
```

```
                180                    185                    190
Ile Asn Asn Leu Thr Ile Val Tyr Asp Gly Leu Tyr Asp Gly Asn His
        195                    200                    205
Phe Ala Tyr Tyr Ile Ala Leu Ala Val Gln Thr Ser Ala Cys Leu Leu
    210                    215                    220
Leu Ile Leu Asn Val Arg Gly Ile Tyr Lys Gly Ser Arg Arg Ala Ile
225                    230                    235                    240
Ile Tyr Ala Phe Ile Ser Ile Ile Leu Ile Ala Ser Ala Thr Ile Tyr
                245                    250                    255
Thr Tyr Ala Ser Phe Leu Leu Leu Ser Trp Leu Ile Ile Ile Phe Val
                260                    265                    270
Leu Leu Ile Leu Ala Tyr Gln Arg Ala Gln Val Leu Lys Arg Pro Leu
        275                    280                    285
Arg Phe Lys Lys Leu Ala Val Met Leu Leu Leu Ser Ile Phe Ile Leu
        290                    295                    300
Tyr Leu Asn His Ile Leu Ile Ser Gly Thr Leu Tyr Ala Leu Asp Val
305                    310                    315                    320
Tyr His Ile Glu Ile Asp Thr Ser Leu Leu Arg Tyr Tyr Phe Trp Met
                325                    330                    335
Thr Ile Val Ile Ile Met Leu Leu Val Gly Val Ile Ala Trp Leu Phe
                340                    345                    350
Asp Tyr Lys Tyr Lys Cys Pro His His Ser Ile Asp Leu Thr Leu Cys
        355                    360                    365
Asp Ala Ile Ile Gln Lys Tyr Gly Gly Asn Tyr Leu Ser His Leu Val
        370                    375                    380
Tyr Ser Gly Asp Lys Asp Cys Phe Phe Asn Glu Asn Lys Asp Ser Phe
385                    390                    395                    400
Ile Met Tyr Arg Tyr Lys Ser Asn Ala Leu Val Val Leu Gly Asp Pro
                405                    410                    415
Ile Gly Asn Thr Lys Ser Phe Glu Ser Leu Leu Glu Ala Phe Tyr Gln
        420                    425                    430
Phe Ala Glu Tyr Gln Gly Tyr Glu Ile Ile Phe Tyr Gln Ile Ser Asp
        435                    440                    445
Gln Tyr Met Pro Leu Tyr His Asn Phe Gly Asn Gln Phe Phe Lys Leu
    450                    455                    460
Gly Glu Glu Ala Ile Ile Asp Leu Thr Thr Phe Thr Thr Ser Gly Lys
465                    470                    475                    480
Lys Arg Arg Gly Phe Arg Ala Thr Leu Asn Lys Phe Asp Asp Leu Asn
            485                    490                    495
Ile Asn Phe Glu Ile Ile Glu Pro Pro Phe Thr Gln Asp Phe Phe Asp
        500                    505                    510
Glu Leu Lys Phe Val Ser Asp Lys Trp Leu Asp Gly Arg Ser Glu Met
        515                    520                    525
His Phe Ser Val Gly Gln Phe Thr Gln Thr Tyr Leu Ser Lys Ala Pro
    530                    535                    540
Ile Gly Val Met Arg Asp His Ser Gly Lys Met Ile Ala Phe Cys Ser
545                    550                    555                    560
Leu Met Pro Thr Tyr Ser Asn Asn Ala Ile Ser Val Asp Leu Ile Arg
                565                    570                    575
Trp Leu Pro Glu Leu Asp Leu Pro Leu Met Asp Gly Leu Tyr Leu His
        580                    585                    590
Met Leu Leu Trp Ser Lys Glu Lys Gly Tyr Lys Ala Phe Asn Met Gly
        595                    600                    605
Met Ala Thr Leu Ser Asn Val Gly Gln Leu His Tyr Ser Tyr Leu Arg
    610                    615                    620
Glu Arg Met Ala Gly Arg Val Phe Glu His Phe Asn Gly Leu Tyr Arg
```

```
625                  630                  635                  640
Phe Gln Gly Leu Arg Arg Tyr Lys Glu Lys Tyr Ser Pro Asn Trp Glu
                645                  650                  655
Pro Arg Phe Leu Val Tyr Gln Lys His Tyr Ser Leu Trp Glu Ser Met
                660                  665                  670
Leu Lys Val Met Arg Val Ile Arg His Lys
                675                  680
```

<210> 4401
<211> 67
<212> PRT
<213> S.epidermidis

<400> 4401
```
Ser Tyr Ile Ser Leu Cys Arg Leu Val Ser Ser Leu Ile Asn Arg His
1               5                   10                  15
Ser Leu Leu Leu Phe Glu Ile Ile Ile Ser Leu Ile Thr Phe Ser Asn
                20                  25                  30
Thr His Leu Phe Val Met Leu Leu Thr Gln Asn Leu Cys Ser Asp Lys
            35                  40                  45
Leu Leu Ile Gln Thr Asn Val Leu Gly Val Ile Leu Asp Asp Phe Lys
        50                  55                  60
Ile Gln Ile
65
```

<210> 4402
<211> 208
<212> PRT
<213> S.epidermidis

<400> 4402
```
Met Ala Ile Ser Ala Lys Leu Val Lys Glu Leu Arg Glu Lys Thr Gly
1               5                   10                  15
Ala Gly Met Met Asp Cys Lys Lys Ala Leu Thr Glu Thr Asp Gly Asp
                20                  25                  30
Ile Asp Lys Ala Ile Asp Tyr Leu Arg Glu Lys Gly Ile Ala Lys Ala
            35                  40                  45
Ala Lys Lys Ala Asp Arg Ile Ala Ala Glu Gly Leu Val His Val Glu
        50                  55                  60
Val Lys Asp Asn Glu Ala Ala Ile Val Glu Ile Asn Ser Glu Thr Asp
65                  70                  75                  80
Phe Val Ala Arg Asn Glu Gly Phe Gln Glu Leu Val Lys Glu Ile Ala
                85                  90                  95
Asn His Ile Leu His Ser Lys Val Glu Thr Val Asp Ala Leu Met Glu
                100                 105                 110
Ser Lys Leu Ser Ser Gly Lys Thr Val Asp Glu Arg Met Lys Glu Ala
            115                 120                 125
Ile Ser Thr Ile Gly Glu Lys Leu Ser Ile Arg Arg Phe Ser Ile Arg
        130                 135                 140
Thr Lys Thr Asp Asn Asp Ala Phe Gly Ala Tyr Leu His Met Gly Gly
145                 150                 155                 160
Arg Ile Gly Val Leu Thr Val Met Glu Gly Thr Thr Asp Glu Glu Ala
                165                 170                 175
Ala Lys Asp Val Ala Met His Ile Ala Ala Ile Asn Pro Lys Tyr Val
                180                 185                 190
Ser Ser Glu Gln Val Ser Glu Glu Glu Ser Ile Met Lys Glu Lys Tyr
```

<210> 4403
<211> 290
<212> PRT
<213> S.epidermidis

<400> 4403
```
Thr Lys Ile Ser Cys Ala Ser Leu Leu Thr Arg Gly Asp Gln Glu Met
1               5                   10                  15
Thr Phe Ala Lys Arg Lys Glu Trp Tyr Leu Glu Tyr Glu Ile Thr Val
            20                  25                  30
Asn Arg Ala Gly Leu Leu Gly Asp Ile Ser Ser Leu Leu Gly Met Leu
        35                  40                  45
Gly Ile Ser Ile Val Thr Ile Asn Gly Val Asp Gln Gly Lys Arg Gly
    50                  55                  60
Leu Leu Ile Lys Thr Asp Gln Leu Glu Lys Val Glu Arg Phe Glu Gln
65                  70                  75                  80
Ile Val Lys Glu Ile Asn Glu Ile Glu Ile Thr Lys Leu Arg Val Pro
                85                  90                  95
Glu Leu Arg Asp Arg Leu Ala Val Arg His Gly Arg Tyr Ile Glu Gln
            100                 105                 110
Asp Ala Asp Asp Lys Lys Thr Phe Lys Phe Glu Arg Glu Asp Leu Gly
        115                 120                 125
Leu Leu Val Asp Phe Leu Ala Glu Leu Phe Lys Glu Glu Gly His Lys
    130                 135                 140
Leu Ile Gly Ile Arg Gly Met Pro Arg Val Gly Lys Thr Glu Ser Ile
145                 150                 155                 160
Val Ala Gly Ser Val Cys Ala His Lys Arg Trp Leu Phe Ile Ser Ser
                165                 170                 175
Thr Leu Ile Lys Gln Thr Val Arg Arg Ser Leu Phe Lys Gly Glu Tyr
                180                 185                 190
Asp Ser Asn His Val Tyr Ile Ile Asp Gly Ala Val Thr Ala Arg Glu
            195                 200                 205
Leu Asn Pro Glu His Gln Glu Leu Val Arg Glu Val Met Thr Leu Pro
        210                 215                 220
Ser Ile Lys Val Val Glu His Pro Asp Leu Phe Val Glu Ser Cys Asn
225                 230                 235                 240
Tyr Asn Met Glu Asp Phe Asp Tyr Ile Ile Glu Leu Arg Glu Asn Glu
                245                 250                 255
Asp Gln Glu Ile Arg Tyr Glu Glu Met Lys Lys His Thr Val Gln Ser
            260                 265                 270
Lys Asn Asn Leu Asp Phe Gly Asp Pro Phe Gly Gly Gly Phe Gly Phe
        275                 280                 285
Phe Glu
    290
```

<210> 4404
<211> 156
<212> PRT
<213> S.epidermidis

<400> 4404
```
Glu Asp Val Ser Met Lys Lys Trp Gln Leu Val Gly Thr Thr Val Leu
1               5                   10                  15
Gly Ala Ser Val Leu Leu Gly Ala Cys Gly Gly Asn Asp Gly Gly Ser
```

```
                 20                      25                      30
Gly Asp Gly Lys Asp Leu Lys Gly Ser Ala Lys Gly Glu Gly Ser Ser
             35                      40                      45
Thr Val Ala Pro Ile Val Glu Lys Leu Asn Glu Lys Trp Ala Lys Asp
         50                      55                      60
His Lys Asp Ala Lys Ile Ser Ser Gly Gln Ala Gly Thr Gly Ala Gly
65                      70                      75                      80
Phe Gln Lys Phe Ile Ala Gly Glu Thr Asp Phe Ser Asp Ala Ser Arg
                 85                      90                      95
Pro Ile Lys Asp Glu Glu Lys Lys Lys Leu Glu Asp Lys Gly Ile Lys
             100                     105                     110
Tyr His Glu Phe Lys Ile Ala Gln Asp Gly Val Thr Ile Ala Val Asn
             115                     120                     125
Lys Asp Asn Asp Phe Val Lys Glu Leu Thr Lys Ser Gln Leu Lys Asp
         130                     135                     140
Ile Tyr Ser Gly Lys Ala Lys Thr Trp Lys Asp Arg
145                     150                     155
```

```
<210> 4405
<211> 44
<212> PRT
<213> S.epidermidis
```

```
<400> 4405
Leu Leu Pro Ser Phe Glu Tyr Leu Ile Phe Gln Gly Ser Lys Ile Lys
1               5                      10                      15
Lys Leu Asn Phe Ile Leu Lys Phe Leu Thr Leu Pro Ile His Phe Asn
             20                      25                      30
Arg Leu Thr Lys Val Phe Asn Ile Ile Lys Phe Thr
         35                      40
```

```
<210> 4406
<211> 248
<212> PRT
<213> S.epidermidis
```

```
<400> 4406
Arg Arg Glu Leu Pro Val Ile Ser Thr Tyr Phe Lys Ile Glu Leu Lys
1               5                      10                      15
Ile Ile Phe Arg Lys Lys Leu Tyr Leu Val Met Ser Ile Phe Leu Pro
             20                      25                      30
Val Val Phe Tyr Leu Leu Phe Thr Ser Ile Leu Asp Met Pro Glu Glu
         35                      40                      45
Ala Lys Leu Lys Phe Tyr Lys Glu Tyr Met Tyr Ser Met Thr Val Phe
         50                      55                      60
Ser Leu Met Asn Phe Cys Leu Leu Ser Phe Pro Leu Asp Leu Ile Glu
65                      70                      75                      80
Glu Arg Asn Gln Gly Trp Tyr Lys Arg Leu Met Val Thr Pro Leu Ser
                 85                      90                      95
Ser Phe Gln Tyr Tyr Leu Val Lys Ile Ser Lys Thr Met Cys Gln Phe
             100                     105                     110
Leu Ile Ala Ile Thr Ile Ile Phe Ser Val Ala His Phe Tyr Lys Asp
             115                     120                     125
Val His Met Thr Val Phe Gln Trp Ile Phe Ser Ala Leu Thr Leu Trp
         130                     135                     140
Ile Gly Val Ser Leu Phe Leu Thr Leu Gly Leu Ile Ile Ala Gln Leu
```

```
145                  150                    155                    160
Asn Asp Ile Gln Lys Ala Ser Ser Phe Ala Asn Leu Leu Asn Ile Thr
                165                    170                    175
Leu Ala Ile Leu Gly Gly Leu Trp Phe Pro Val Tyr Thr Phe Pro Asp
                180                    185                    190
Trp Leu Gln Ser Ile Ser Lys His Met Pro Thr Tyr Asn Leu Lys Leu
                195                    200                    205
Leu Ala Ile Asp Leu Ala Gln Asn Lys Gly Val Asn Ile Glu Ala Phe
        210                    215                    220
Gly Tyr Leu Val Val Tyr Cys Ile Ile Phe Val Ser Ile Ala Leu Phe
225                    230                    235                    240
Met Asn Lys Lys Gly Asp Val His
                245
```

<210> 4407
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4407

```
Leu Asn Arg Ser Leu Tyr Val Ile Leu Ile Tyr Thr Leu Ile Leu Tyr
1                5                    10                    15
Ile Ser Thr Gln Leu Ile Arg Gly Phe Asn Asn Ser Ala Met His Cys
                20                    25                    30
Arg Ile Ile Leu Ser Gly Ile Thr Tyr Tyr Ala
        35                    40
```

<210> 4408
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4408

```
Leu Lys Ser Ser Phe Asn Phe Ser Ile Ile Asp Phe Ile Leu Asn Lys
1                5                    10                    15
Asn Ile Ser Ser Val Tyr Leu Ser Ala Gly Trp Arg Gly Leu Asn Leu
                20                    25                    30
Glu Ile Met Met Glu Phe Ile Phe Tyr Leu Thr Thr Ile Ser Pro Phe
        35                    40                    45
Asp Phe Leu Leu Lys Ser
        50
```

<210> 4409
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4409

```
Tyr Leu Ile Ser Lys Lys Ser Glu Lys Ser Lys Ser Phe Leu Phe Asp
1                5                    10                    15
Thr Phe Met His Asn Ile Ile Thr Gln Leu His Lys Leu Leu Leu Leu
                20                    25                    30
Phe His Leu Lys Cys Asn Ser Ile Ile Ala Ile Leu Leu Asn Arg Asn
        35                    40                    45
Asn Tyr Val Phe Gln Lys
        50
```

<210> 4410
<211> 269
<212> PRT
<213> S.epidermidis

<400> 4410
Phe Leu Leu Ser Val Glu Cys Ile Asp Leu Phe Gly Cys Ser Gly Ala
1   5   10   15
Pro Asp Cys Ala Gly Val Pro Gly Ser Thr Gly Leu Pro Gly Ser Thr
            20   25   30
Gly Leu Pro Asp Ser Ala Gly Leu Pro Gly Ser Ala Gly Val Pro Gly
        35   40   45
Ser Ala Gly Leu Pro Gly Ser Ala Gly Val Pro Gly Ser Ala Gly Leu
    50   55   60
Pro Gly Ser Ala Gly Val Pro Gly Ser Ala Gly Leu Pro Gly Ser Ala
65   70   75   80
Gly Val Pro Gly Ser Ala Gly Val Pro Gly Ser Ala Gly Leu Pro Gly
                85   90   95
Ser Ala Gly Leu Pro Gly Ser Ala Gly Leu Pro Gly Ser Ala Gly Val
            100   105   110
Pro Gly Ser Ala Gly Leu Pro Gly Ser Ala Gly Val Pro Gly Ser Ala
            115   120   125
Gly Leu Pro Gly Ser Ala Gly Leu Pro Gly Ser Ala Gly Leu Pro Gly
    130   135   140
Ser Ala Phe Val Gly Pro Tyr Ser Thr Ile Ser Ser Thr Gly Cys Leu
145   150   155   160
Val Thr Phe Ser Val Asp Leu Pro Ser Pro Thr Phe Ser Pro Val Ile
                165   170   175
Gly Leu Thr Asn Ile Gly Val Val Ile Val Phe Val Pro Gly Ser Pro
                180   185   190
Phe Cys Leu Thr Arg Ser Ser Pro Gly Phe Lys Ser Gly Leu Asn Thr
            195   200   205
Arg Phe Leu Ser Asn Gly Ile Ser Ser Val Asp Val Ile Gly Leu Pro
    210   215   220
Thr Phe Gly Pro Tyr Phe Val Thr Ser Ser Thr Gly Gly Val Thr Thr
225   230   235   240
Ser Pro Val Ser Gly Phe Leu Thr Pro Gly Leu Pro Gly Thr Ser Val
                245   250   255
Leu Leu Ser Thr Gly Ala Phe Gly Ser Asn Ser Ser Leu
            260   265

<210> 4411
<211> 125
<212> PRT
<213> S.epidermidis

<400> 4411
Val Met Thr Ser Ile Val Val Val Ser His Ser His Lys Ile Ala Glu
1   5   10   15
Gly Val Lys Gln Leu Ile Asn Gln Met Thr Asp Gly Gly Val Asp Leu
            20   25   30
Ile Ala Val Gly Gly Leu Ser Asp Asp Glu Ile Gly Thr Ser Phe Asp
        35   40   45
Gln Ile Val Ser Val Ile Asn Gly Leu Glu Asn Asp Ala Leu Cys Phe
    50   55   60

```
Tyr Asp Ile Gly Ser Ala Gly Met Asn Leu Asp Thr Ala Leu Glu Met
65                  70              75                  80
Tyr Glu Gly Asp His Lys Ile Val Lys Met Glu Ala Pro Ile Val Glu
                85              90                  95
Gly Ser Phe Ile Ala Ser Val Gly Ile Lys Ser Asn Met Ser Met Asp
                100             105                 110
Ser Val Ile Ser Glu Val Arg Ala Lys Tyr Pro Glu Glu
                115             120                 125
```

```
<210> 4412
<211> 538
<212> PRT
<213> S.epidermidis
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```
<400> 4412
Lys Leu Gly Ser Tyr Ser Thr Asn Pro Thr Ile Thr Cys Ile Gln Tyr
1               5                   10                  15
Ser Thr Ser Ser Ile Phe Gly Asp Asp Ser Met Lys Thr Tyr Lys Pro
                20              25                  30
Tyr Arg His Gln Leu Arg Arg Ser Leu Phe Ala Ser Thr Ile Phe Pro
            35              40                  45
Val Phe Met Val Met Ile Ile Gly Leu Ile Ser Phe Tyr Ala Ile Tyr
        50              55                  60
Ile Trp Val Glu His Arg Thr Ile His Gln His Thr Tyr Gln Thr Gln
65                  70              75                  80
Thr Glu Leu Gln Arg Ile Asp Lys His Phe His Thr Phe Val Thr Gln
                85              90                  95
Gln Gln Lys Gln Trp Arg His Val Asp Leu Ser His Pro Ala Asp Ile
                100             105                 110
Thr Lys Met Lys Arg Gln Leu Leu Lys Gln Val His Gln Gln Pro Ala
            115             120                 125
Ile Leu Tyr Tyr Asp Leu Lys Gly Ser Ser Gln Ser Phe Thr Asn Asn
        130             135                 140
Tyr Glu Gln Leu Asp Thr Thr Lys Met Tyr Leu Ile Ser Lys Tyr Arg
145                 150             155                 160
Ile Asp Phe Lys Asp Asp Thr Tyr Ile Leu Lys Ile Tyr Met Ser Ser
                165             170                 175
Thr Pro Leu Leu Lys Asn Ile Lys Lys Asn Ser Gly Gln Ser Ala Leu
            180             185                 190
Ile Val Asp Ser Tyr Asp Thr Val Leu Tyr Thr Asn Asp Asp Arg Phe
            195             200             205
Ser Ile Gly Gln Lys Tyr Gln Pro Pro Gln Phe Gly Phe Ile Asn Glu
        210             215             220
Ser Leu Lys Leu Asn Ser His His Ala His Leu Ile Ile Tyr Lys Asp
225             230             235             240
Ile His Glu Thr Ile Glu Asp Gly Ile Ala Leu Leu Val Val Met Gly
                245             250                 255
Val Val Leu Ile Leu Leu Val Ile Phe Gly Tyr Ile Ser Ala Asp Arg
            260             265                 270
Met Ala Lys Arg Gln Ser Glu Asp Ile Glu Ala Ile Val Arg Lys Ile
            275             280                 285
Asp Asp Ala Lys Asn Arg His Leu Gly Ser Tyr Glu Pro Leu Lys Lys
        290             295                 300
His Ser Glu Leu Glu Glu Ile Asn Asn Tyr Ile Tyr Asp Leu Phe Glu
305             310             315                 320
Ser Asn Glu Gln Leu Ile Gln Ser Ile Glu Gln Thr Glu Arg Arg Leu
```

```
                325                 330                 335
Arg Asp Ile Gln Leu Lys Glu Ile Glu Arg Gln Phe Gln Pro His Phe
            340                 345                 350
Leu Phe Asn Thr Met Gln Thr Ile Gln Tyr Leu Ile Pro Leu Ser Pro
            355                 360                 365
Lys Val Ala Gln Thr Val Ile Gln Gln Leu Ser Gln Met Leu Arg Tyr
        370                 375                 380
Ser Leu Arg Thr Ala Ser His Thr Val Lys Leu Ala Glu Glu Leu Ser
385                 390                 395                 400
Tyr Ile Glu Gln Tyr Val Ala Ile Gln Asn Ile Arg Phe Asp Asp Met
            405                 410                 415
Ile Gln Leu Tyr Ile Asp Ala Thr Glu Gly Val Gln His Gln Thr Ile
            420                 425                 430
Gly Lys Met Met Leu Gln Pro Leu Val Glu Asn Ala Ile Lys His Gly
        435                 440                 445
Arg Asp Ser Glu Pro Leu Lys Ile Thr Ile Arg Ile Arg Leu Thr Lys
        450                 455                 460
Arg Lys Leu His Ile Leu Val His Asp Asn Gly Ile Gly Met Ser Pro
465                 470                 475                 480
Ser His Leu Glu His Val Arg Gln Ser Leu His His Asp Val Phe Asp
            485                 490                 495
Thr Thr His Leu Gly Leu Asn His Leu His Asn Arg Ala Met Ile Gln
        500                 505                 510
Tyr Gly Thr Tyr Ala Arg Leu His Ile Phe Ser Arg Ser Gln Gln Gly
        515                 520                 525
Thr Leu Met Cys Tyr Gln Ile Pro Leu Val
        530                 535
```

<210> 4413
<211> 2404
<212> PRT
<213> S.epidermidis

<400> 4413
```
Cys Lys Leu Phe Met Ser Tyr Tyr Gly Asn Glu Tyr Glu Arg Arg Thr
1               5                   10                  15
Leu Met Asn Ile Glu Ala Leu Tyr Phe Gln Lys Tyr Phe Tyr Phe Lys
            20                  25                  30
His Leu Asn Gln Ser Ser Ser Glu His Arg Val Thr Tyr Trp Val Lys
        35                  40                  45
Leu Ser Arg Asp Ile Glu Leu Arg Arg Leu Met Tyr Ala Leu Leu Asp
        50                  55                  60
Val Val Gln Ser Gln Pro Val Leu Arg Thr Gln Phe Val Thr Asp Asp
65                  70                  75                  80
Phe Asn Gln Leu Lys Ile Asn Leu Arg Asp Phe Phe Pro Phe Ile Glu
            85                  90                  95
Ile Lys Glu Val Asn Glu Met Ser Gln Ser Ile Asp Leu Glu Ala Phe
            100                 105                 110
Phe Thr Arg Asn Leu Asn Ser Tyr His Phe Asn Gln Leu Pro Leu Phe
        115                 120                 125
Asn Phe Lys Ile Tyr Gln Phe Leu Asp Glu Ala Tyr Leu Leu Leu Asp
        130                 135                 140
Phe His Ala Thr Ile Phe Asn Glu Ser Gln Leu Thr Pro Phe Leu Gln
145                 150                 155                 160
Gln Leu Asn Ile Ala Tyr Thr His Ser Leu Lys Ser Glu Tyr Ser Ile
            165                 170                 175
```

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Ser Asp Phe Tyr Asn Trp Ile Lys Glu Met Asn Gln Lys Met Asp Gln
            180                 185                 190
Asn Gln Val Val Cys Pro Ser Lys His Phe Asn Val Leu Asn Ala Asp
        195                 200                 205
Gly Asp Asn Tyr Ala Tyr Ile Pro Val Lys Asn Thr Cys Glu Lys Lys
    210                 215                 220
Lys Met Cys Ser Leu His Ala Glu Leu Pro Ser Leu Asp Ile Asp Val
225                 230                 235                 240
Trp Ile Val Ser Ile Tyr Leu Ala His His Phe Ile Ser Gln Ser Ser
            245                 250                 255
Asp Val Thr Leu Gly Ile His Phe Ser Ile Asp Asn Lys Asn Thr Glu
            260                 265                 270
Asn Met Met Val Leu Asn Thr Asp Ile Ala Pro Leu Asn Leu Ser Ile
        275                 280                 285
Ser Gln Ser Asp Val Val Lys Asp Met Val Asp Glu Cys Ser Ala Leu
        290                 295                 300
Leu Glu Glu Leu Gln Met Cys Gly Ala Ser Phe Val Val Gln Pro Lys
305                 310                 315                 320
Ala Val Gln Ile Asp Val Glu Thr Met Ile His Ile Glu Lys Val Gln
            325                 330                 335
Glu Gln Phe Glu Leu Asn His Ile Cys His His Ile His Arg Leu Tyr
        340                 345                 350
Asn Glu Ala Ser Ser Phe Ala Asp Leu Glu Phe Tyr Pro His Val Gln
        355                 360                 365
Asp Gly Phe Asp Ile Val Tyr Asn Asp Asn Val Tyr Asp Asp Leu Thr
    370                 375                 380
Val His Thr Leu Val Lys Leu Ile Asn Gly Ile Tyr Met Gln Ile Thr
385                 390                 395                 400
Gln Asn Pro Ser Leu Leu Ile Lys Asp Ile Lys Leu Ser Asp Arg Ser
            405                 410                 415
Asp Leu Ala Lys Tyr Asn Asp Ile Asn Leu Gln Asn Asn Asp Ile Asn
            420                 425                 430
Tyr Ser Glu Val Thr Tyr Lys Thr Val Val Glu Arg Phe Glu Arg Gln
        435                 440                 445
Val His Gln His Pro Asp Ser Ile Ala Leu Gln Tyr Glu Gln Arg Ser
    450                 455                 460
Met Thr Tyr His Gln Leu Asn Gln Cys Ala Asn Leu Leu Ala Tyr Arg
465                 470                 475                 480
Leu Arg Leu Asn His Gln Ile Glu Pro Asn Asp Met Val Ala Leu Ile
            485                 490                 495
Ala Glu Arg Ser Leu Glu Met Ile Ile Gly Met Leu Gly Ile Leu Lys
        500                 505                 510
Ala Gly Ala Gly Tyr Ile Pro Ile Asp Pro Asp Tyr Pro Glu Glu Arg
        515                 520                 525
Met Asn Tyr Ile Ile Glu Asp Ala Lys Pro Lys Ala Val Val Thr Tyr
    530                 535                 540
Arg Thr Ser Phe Gln Ser Gly Leu Pro Gln Met Asp Ile Glu Leu Ile
545                 550                 555                 560
Val Asp Ser Arg Glu His Asp Ile Asp Asn Pro Arg Gly Ile Asn Cys
            565                 570                 575
Ser Glu Asp Ile Ala Tyr Val Ile Tyr Thr Ser Gly Thr Thr Gly Lys
            580                 585                 590
Pro Lys Gly Thr Leu Val Pro His Arg Gly Ile Asp Arg Leu Val His
        595                 600                 605
Asn Pro Asn Tyr Val Glu Leu Asn Glu Asn Thr Thr Val Leu Leu Ser
    610                 615                 620
```

```
Gly Thr Val Ala Phe Asp Ala Ala Thr Phe Glu Ile Tyr Gly Pro Leu
625             630             635             640
Leu Asn Gly Gly Arg Leu Val Ile Thr Ser Lys Asp Thr Leu Leu Asn
            645             650             655
Pro Gln Leu Leu Asp Gln Ala Ile Thr Glu Asn Lys Val Asn Thr Met
            660             665             670
Trp Leu Thr Ser Ser Leu Phe Asn Gln Ile Ala Ser Glu Arg Ile Glu
        675             680             685
Ala Leu Glu Ser Leu Thr Tyr Leu Leu Ile Gly Gly Glu Val Leu Asn
    690             695             700
Ala Lys Trp Val His Leu Leu Asn Ser Arg Glu Cys His Pro Gln Ile
705             710             715             720
Ile Asn Gly Tyr Gly Pro Thr Glu Asn Thr Thr Phe Thr Thr Thr Phe
            725             730             735
Ala Ile Pro Gln Glu Met Pro Ser Arg Ile Pro Ile Gly Leu Pro Ile
        740             745             750
Ser Gly Thr Thr Val Tyr Val Met Gln Gly Asp Arg Ile Cys Gly Val
        755             760             765
Gly Val Pro Gly Glu Leu Cys Ile Gly Gly Ala Gly Leu Ala Lys Gly
    770             775             780
Tyr Leu Asn Gln Pro Lys Leu Thr Ala Glu Arg Phe Ile Gln Ser Pro
785             790             795             800
Phe Asn Asn Glu Met Leu Tyr Arg Ser Gly Asp Leu Val Arg Leu Gln
            805             810             815
Glu Asp Gly Tyr Ile Asp Tyr Ile Ser Arg Ile Asp Lys Gln Val Lys
        820             825             830
Ile Arg Gly Phe Arg Ile Glu Leu Ser Glu Ile Glu Lys Ala Leu Glu
        835             840             845
Ala Ile Arg Asp Ile Asn Lys Ala Val Val Ile Val Arg Glu Gln Asp
    850             855             860
Gln Asp Lys Gln Ile Val Ala Tyr Tyr Glu Ala Ser Gln Leu Lys Ser
865             870             875             880
Thr Gly Gln Leu Lys Asp Ile Leu Ser Glu Thr Leu Pro Glu Tyr Met
            885             890             895
Ile Pro Val His Phe Met Lys Val Asp Arg Ile Pro Ile Thr Met Asn
        900             905             910
Gly Lys Leu Asp Val Arg Ala Leu Pro Glu Ile Asn Leu Lys Asn Asn
    915             920             925
Arg Asn Tyr Val Glu Pro Arg Asn Asp Ile Glu Arg Thr Val Cys Arg
    930             935             940
Ile Phe Glu Glu Ile Leu His Val Asp Gln Val Gly Val Lys Asp Asn
945             950             955             960
Phe Phe Glu Leu Gly Gly His Ser Leu Arg Ala Thr Leu Val Val Asn
            965             970             975
Arg Ile Glu Glu Arg Leu Lys Lys Arg Leu Lys Val Gly Asp Leu Met
        980             985             990
Lys Ser Pro Thr Val Glu Gln Leu Gly Gln Gln Ile Glu Glu Leu Gln
    995             1000            1005
Asn Asp Val Tyr Glu Val Ile Pro Lys Ala Asn Glu Ser Tyr Gln Tyr
    1010            1015            1020
Asp Leu Ser Ala Ser Gln Lys Ser Met Tyr Leu Leu Trp Lys Val Asn
1025            1030            1035            1040
Pro Lys Asp Thr Val Tyr Asn Ile Pro Phe Leu Trp Arg Leu Ser Ser
            1045            1050            1055
Glu Leu Asn Val Met Gln Leu Gln Arg Ala Leu Ser Lys Leu Ile Glu
        1060            1065            1070
```

```
Arg His Glu Ile Leu Arg Thr Gln Tyr Val Ile Asp Asp Asn Glu Val
        1075                1080                1085
Lys Gln Arg Ile Ala Thr His Val Ser Pro Asp Phe Glu Glu Val Thr
        1090                1095                1100
Thr Ser Leu Thr Asn Glu Gln Asp Ile Ile Gln Ser Phe Met Glu Pro
1105                1110                1115                1120
Phe Asp Leu Glu Gln Pro Ser Gln Met Arg Val Lys Tyr Ile His Gly
        1125                1130                1135
Pro Gln Gln Asp Tyr Leu Phe Met Asp Thr His His Ser Ile Asn Asp
        1140                1145                1150
Gly Met Ser Asn Thr Ile Leu Leu Ser Asp Leu Asn Ala Leu Tyr Gln
        1155                1160                1165
Asp Lys Ser Leu Pro Glu Leu Lys Leu Gln Tyr Lys Asp Tyr Ser Glu
        1170                1175                1180
Trp Met Val His Arg Asp Leu Ser Lys Gln Arg His Phe Trp Leu Gln
1185                1190                1195                1200
Gln Phe Glu Asn Gln Val Pro Ile Leu Asn Met Pro Thr Asp Tyr Pro
        1205                1210                1215
Arg Pro Ser Ile Lys Thr Thr Asn Gly Asn Met Leu Thr Phe His Tyr
        1220                1225                1230
Asn Arg Gln Ile Lys Gln Gln Leu Lys Ser Tyr Val Glu Gln His Gln
        1235                1240                1245
Val Thr Asp Phe Met Phe Phe Ala Ser Ala Ile Met Val Leu Leu His
        1250                1255                1260
Lys Tyr Thr Arg Gln Asp Asp Ile Ala Ile Gly Ser Val Ile Ser Ala
1265                1270                1275                1280
Arg Thr His Arg Asp Thr Glu Asn Met Leu Gly Met Phe Ala Asn Thr
        1285                1290                1295
Leu Val Tyr Arg Gly Arg Pro His Asp Gln Lys Thr Trp Asp Gln Leu
        1300                1305                1310
Met Ala Glu Met Lys Glu Met Cys Leu Gly Ala Tyr Glu His Gln Glu
        1315                1320                1325
Tyr Pro Phe Glu Ser Leu Val Asn Asp Leu Val Asp Glu Arg Asp Ala
        1330                1335                1340
Ser His Asn Pro Leu Phe Asp Val Met Leu Val Leu Gln Asn Asn Glu
1345                1350                1355                1360
Thr Asn His Ala Asn Phe Gly His Ser Gln Leu Thr His Ile Pro Pro
        1365                1370                1375
Gln Ser Thr Thr Ala Lys Phe Asp Leu Ser Phe Ile Ile Glu Glu Asp
        1380                1385                1390
Gln Asp Asp Tyr Val Val Asn Ile Glu Tyr Asn Thr Asp Leu Tyr Lys
        1395                1400                1405
Gln Glu Thr Ile His His Ile Ala Glu Gln Leu Gln Met Ile Ile Lys
        1410                1415                1420
His Val Ile Ser Thr Glu Asn Leu Lys Ile Gln Asp Ile Asp Glu Asn
1425                1430                1435                1440
Asp Asp Leu Leu Ile Trp Leu Asp Lys His Val Asn Asp Cys Ser Leu
        1445                1450                1455
Asp Leu Pro Lys Asn Lys Ser Ile Gln Gln Leu Leu His Asp Val Met
        1460                1465                1470
Lys Ala Lys Ala Asp Asp Val Ala Leu Lys Met Asn Gly Gln Ser Met
        1475                1480                1485
Thr Tyr Gln Glu Leu Asp Asp Tyr Ser Asn Ser Met Ala Gln Thr Leu
        1490                1495                1500
Ile Gln Asn Gly Ile Gln Lys Gly Glu Arg Val Ala Leu Leu Thr Glu
1505                1510                1515                1520
```

Arg Ser Phe Glu Met Val Ala Ser Met Ile Ala Val Leu Lys Val Gly
              1525   1530   1535

Gly Ser Tyr Val Pro Ile Asp Val Thr Tyr Pro Asp Lys Arg Ile Glu
              1540   1545   1550

Phe Ile Ile Glu Asp Ala Glu Val Ala Ala Val Leu Thr Tyr Gly Lys
        1555   1560   1565

Ala Ile Ser Ser His Ile Pro Val Ile Lys Ile Glu Asp Ile Asp Asn
     1570   1575   1580

Thr Glu Asn Asn Lys Arg Leu Asn Ile Glu Tyr Ala Gly Asn Leu Glu
1585   1590   1595   1600

Asp Asp Met Tyr His Ile Tyr Thr Ser Gly Thr Thr Gly Lys Pro Lys
              1605   1610   1615

Ala Val Ser Val Lys Gln Arg Asn Ile Leu Asn Leu Val Cys Ala Trp
              1620   1625   1630

Thr Lys Arg Leu Asn Leu Ser Asp Asp Glu Val Tyr Leu Gln Tyr Ala
              1635   1640   1645

Asn Tyr Val Phe Asp Ala Ser Ala Thr Asp Phe Tyr Cys Ser Leu Leu
              1650   1655   1660

Asn Gly Tyr Pro Leu Val Ile Ala Thr Ser Val Glu Arg Thr Asn Thr
1665   1670   1675   1680

Asp Leu Leu Glu Lys Leu Ile Ser Gln Glu Asn Ile Thr Ile Ala Ser
              1685   1690   1695

Ile Pro Leu Gln Val Tyr Asn Val Met His His Phe Tyr Ile Pro Lys
              1700   1705   1710

Val Ile Thr Gly Gly Ala Pro Ser Thr Pro Ala Phe Val Gln His Ile
              1715   1720   1725

Ser Lys His Cys Asp Met Tyr Val Asn Ala Tyr Gly Pro Ser Glu Asn
              1730   1735   1740

Thr Val Ile Thr Ser Cys Trp Ile Tyr Glu Lys Gly Asp Ala Ile Pro
1745   1750   1755   1760

Ser Thr Ile Pro Ile Gly Lys Pro Leu Ala Asn Val Asp Ile Phe Ile
              1765   1770   1775

Met Ser Gly Gly Lys Leu Cys Gly Val Gly Ile Pro Gly Glu Leu Cys
              1780   1785   1790

Ile Ala Gly Glu Ser Leu Thr Ser Gly Tyr Leu Asn Arg Pro Glu Leu
              1795   1800   1805

Ser Ala Glu Lys Phe Ile Asn Asn Pro Phe Gly Pro Gly Gln Leu Tyr
              1810   1815   1820

Arg Ser Gly Asp Leu Ala Arg Leu Met Pro Asp Gly Gln Ile Glu Phe
1825   1830   1835   1840

Leu Gly Arg Ile Asp Lys Gln Val Lys Val His Gly Tyr Arg Ile Glu
              1845   1850   1855

Leu Gly Glu Ile Glu Asn Ile Ile Asn Ser Val Asp Thr Val Thr Asp
              1860   1865   1870

Ser Val Val Ile Leu Ala Lys Gln Gly Glu Arg Glu Val Leu His Ala
              1875   1880   1885

Tyr Tyr Val Gly Ser Gln Glu Asp Glu Asn His Ile Ser Gln His Leu
              1890   1895   1900

Asn Gln Tyr Leu Pro Lys Tyr Met Ile Pro Lys Thr Leu Thr Ala Ile
1905   1910   1915   1920

Ser Glu Ile Pro Leu Thr Gly Asn Asp Lys Val Asp Glu Ser Arg Leu
              1925   1930   1935

Pro Val Pro Asn Val His Lys Asn Lys Phe Val Ala Pro Arg Asn Asn
              1940   1945   1950

Ile Glu Arg Glu Ile Ala Gln Ile Val Ser Gly Val Leu Asp Val Ser
              1955   1960   1965

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Ser Met Ser Ile Asp Asp Asp Phe Phe Glu Met Gly Gly Thr Ser Leu
    1970                1975                1980
Asp Ala Met Val Val Val Ser Lys Leu Lys Ser Asn Gly Ile His Ile
1985                1990                1995                2000
Thr Met Gln Asp Val Tyr Gln Phe Lys Thr Val Arg Tyr Ile Ala Asn
                2005                2010                2015
His Thr Glu Lys Arg Gln Ala Leu Pro Glu Val Val Leu Pro Asp His
                2020                2025                2030
Leu Pro Gln Leu Gln Ser Leu Val Glu Arg Arg Tyr Gln Leu Lys Ser
                2035                2040                2045
Gln His Leu Thr Gln Ser Ser Leu Gly His Val Leu Leu Thr Gly Ala
    2050                2055                2060
Thr Gly Phe Leu Gly Ala Tyr Leu Ile Asp Glu Met Gln Asp Asp Ala
2065                2070                2075                2080
Asp Gln Ile Thr Cys Ile Val Arg Gly His Asp Ile Asn Gln Ala Lys
                2085                2090                2095
Thr Asn Leu Glu Asn Asn Leu Asn Cys Tyr Phe Asp Thr Ala His Val
                2100                2105                2110
Asp Lys Leu Met Lys His Ile Asp Ile Ile Leu Ala Asp Leu Ser Glu
                2115                2120                2125
Leu Asp His Leu Ile Ile Asp Ser Ala Ile Asp Thr Ile Ile His Ala
    2130                2135                2140
Gly Ala Arg Thr Asp His Phe Gly Asp Asp Glu Thr Phe Phe Asp Val
2145                2150                2155                2160
Asn Val Arg Ser Thr Gln Ala Leu Ile Asp Leu Ala Lys Asn Lys Lys
                2165                2170                2175
Ala Lys Leu Ile Tyr Ile Ser Thr Ile Ser Val Gly Thr Val Phe Glu
            2180                2185                2190
Val His Gln Asp Asp Ile Thr Phe Ser Glu Lys Asp Leu Tyr Lys Gly
    2195                2200                2205
Gln Leu Phe Thr Ser Pro Tyr Thr Lys Ser Lys Phe Tyr Ser Glu Ile
    2210                2215                2220
Lys Val Leu Glu Ala Val Asn Glu Gly Leu Ala Ala Gln Ile Ile Arg
2225                2230                2235                2240
Leu Gly Asn Leu Thr Ser Ala Ser Thr Gly Pro Leu Asn Met Lys Asn
                2245                2250                2255
Leu Thr Thr Asn Arg Phe Ser Ile Val Met His Asp Leu Leu Lys Met
            2260                2265                2270
Pro Phe Ile Gly Glu Ser Ile Ser Lys Ala Lys Val Glu Phe Ser Phe
            2275                2280                2285
Ile Asp Val Thr Ala Arg His Ile Ile Lys Leu Ala Arg Ser Asn Ala
    2290                2295                2300
Ile Pro Ile Ile Tyr His Val Tyr Ala Pro Cys Ser Ile Thr Met Lys
2305                2310                2315                2320
Gln Val Ile Asp Asn Ala Lys Gly Ser Glu Met Thr Val Val Ser Asp
                2325                2330                2335
Ser Glu Phe Glu Gln Lys Leu His Glu Leu Gly Met His Glu Leu Ile
        2340                2345                2350
Gly Leu Asn Ser Asn Gly Asp Asn Gln Ile Ser Gly Val Thr Asp Ser
        2355                2360                2365
Asn Met Thr Gln Thr Val Met Lys Glu Leu Gln Gly Glu Trp Pro His
    2370                2375                2380
Leu Ser Tyr Gln Trp Leu Gln Gln Trp Tyr His Leu Leu Phe Glu Lys
2385                2390                2395                2400
Phe Asp Ala Asn
```

<210> 4414
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4414
Gly Tyr Thr Pro Thr His Val Lys Asn Arg Phe Ile Tyr Phe Val Lys
1   5   10   15
Thr Lys Glu Met Lys Leu Tyr Gln Thr Phe Ile Ala Ile Glu Tyr Ser
            20   25   30
Arg Phe Leu Ile Thr Ile Glu Glu Thr Phe Thr Phe Ile Ser Phe
        35   40   45

<210> 4415
<211> 312
<212> PRT
<213> S.epidermidis

<400> 4415
Ala Tyr His Pro Leu Lys Asn Gly Val Glu Asn Lys Phe Leu Ile Ile
1   5   10   15
Ser Met Tyr Phe Asn Leu Lys Ile Lys Arg Met Asn Lys Met Lys Phe
            20   25   30
Lys Lys Ser Leu Ile Thr Ala Leu Ala Thr Ile Thr Leu Val Pro Ser
            35   40   45
Leu Met Ile Leu Asp Thr Gln His Glu Ala Lys Ala Val Gly Asn Tyr
            50   55   60
Tyr Tyr Asn Gly Met Glu Asp His Asn Ala Ser Ala Ala Tyr His Lys
65   70   75   80
Ala Lys Lys Val Asp Asn Ser Gln Ile Val Ile Lys Arg Tyr Asn Tyr
                85   90   95
Ala His Lys Asn Lys Tyr Lys Ala Val Gly Arg Val Ser Asn Met Asp
            100   105   110
Gly Trp Lys Gly Pro Gly Lys Asp Ser Met Gly Thr Gly Phe Met Val
            115   120   125
Gly Asn His Thr Phe Val Thr Asn Ala His Val Val Asp Lys Lys Asn
            130   135   140
Gly Gln Arg Thr Ser Pro Ser Lys Ile Lys Phe Gln Leu Asn Arg Asp
145   150   155   160
Gly Lys Lys Ile Pro Tyr Gln Phe His Ala Lys Lys Ile Tyr Lys Ile
                165   170   175
Pro Ser Tyr Asp Met Val Val Val Glu Thr Lys Glu Asn Met Ala Gln
                180   185   190
Lys Ala Asn Val Gln Pro Leu Lys Leu Ala Thr Asn Gln Lys Ile Lys
                195   200   205
Ser Leu Lys Phe Asn Lys Lys Leu Tyr Ser Leu Gly Tyr Pro Val Met
            210   215   220
Asn Gly Asn Asn Thr Tyr Ala Tyr Trp Asn Lys Leu Arg Phe Leu Gln
225   230   235   240
Glu Ala Ser Asn Lys Ser Glu Leu Met Thr Lys Asp Lys Phe Arg Ala
                245   250   255
Gly Asp Ser Gly Ser Pro Met Val Asp Ser Gln Tyr Val Val Tyr Gly
            260   265   270
Val Arg Thr Tyr Gly Tyr Asn Leu Arg Gly Ser Ser Asn His Pro Tyr
            275   280   285

Ala Gln Gln Glu Val Ala Gly Ala Glu Ser Leu Tyr Gly Asn Pro Arg
    290   295   300
Asp Phe Ile Leu Lys His Asn Lys
305   310

<210> 4416
<211> 71
<212> PRT
<213> S.epidermidis

<400> 4416
Ile Lys Val Pro Pro Phe Ile Leu Asn Asn Asn Ile Pro Ser Leu Arg
1   5   10   15
Ile Ile Glu Asn Arg Ile Pro Gly Ala Ser Cys Val Gly Thr Ser Ser
            20   25   30
Ser His Asn Lys Gly Met Asn Ala Phe Asp Ile Lys Val Lys Ile Gly
        35   40   45
Val Arg Asp Asn Arg Leu Thr Ile Arg Gln Ile Pro Ile Lys Ile Gly
    50   55   60
Lys Ala Cys Thr Ile Asn Ile
65   70

<210> 4417
<211> 207
<212> PRT
<213> S.epidermidis

<400> 4417
Leu Lys Lys Phe Leu Lys Gly Phe Ile Leu Phe Phe Leu Ile Val Met
1   5   10   15
Leu Gly Phe Ala Gly Gly Leu Gly Tyr Ser His Tyr Lys Asp Ser Lys
            20   25   30
Ala Asn Thr Asp Val Ser Ser Lys Glu Thr Gln Thr Ser Asn Lys Asn
        35   40   45
Thr His Glu Asp Thr Ile Ser Gln Asp Glu Met Gln Asn Gln Val Asp
        50   55   60
Ser Gln Thr Asn Glu Val Ser Asn Glu Thr Ser Thr Lys Thr Leu Ser
65   70   75   80
Glu Lys Ala Lys Arg Leu Arg Glu Ala Phe Asn Val Asn Asp Glu Glu
            85   90   95
Ala Gln Ile Leu Ala Asp Glu Ile Asp Arg Ala Asp Val Asn Lys Asp
            100   105   110
Gly Thr Ile Thr Met Asp Glu Met Thr Pro Thr Leu Asp Arg Phe Ala
            115   120   125
Lys Glu Gly Lys Phe Gln Pro Ser Ala Gly Gly Thr Thr Asn Glu Ala
            130   135   140
His His Pro Lys Tyr Thr Ala Glu Asp Ala Arg Asn Met Ser Asp Asp
145   150   155   160
Glu Phe Leu Asp Ala Tyr Thr Glu Gly Met Ser Asp Asp Glu Ala Ala
            165   170   175
Thr Ile His Glu Ser Ala Gln Glu Ser Asn Glu Tyr Met Lys Phe Leu
            180   185   190
Arg Gly Gln Val Glu Ala Arg Ala Lys Gly Gln Gly Gly Asn Tyr
        195   200   205

<210> 4418

<211> 320
<212> PRT
<213> S.epidermidis

<400> 4418
Met Lys Lys Leu Ile Gln Asp Lys Asn Thr Ile Leu Lys Asp Met Leu
1   5   10   15
Asp Gly Ile Thr Val Ser Asn Asn Asp Val Glu Val Val Ser Asp Thr
            20   25   30
Ile Val Val Arg Lys His Lys Lys Gln Ser Gly Val Ala Leu Val Ser
            35   40   45
Gly Gly Gly Ser Gly His Glu Pro Ala His Ala Gly Phe Val Ala Glu
        50   55   60
Gly Met Leu Asp Ala Ala Val Cys Gly Glu Ile Phe Thr Ser Pro Thr
65   70   75   80
Pro Asp Lys Ile Leu Asp Ala Ile Lys Ala Val Asp Asn Gly Asp Gly
                85   90   95
Val Leu Leu Val Ile Lys Asn Tyr Ala Gly Asp Val Met Asn Phe Glu
                100   105   110
Met Ala Gln Glu Met Ala Gln Met Glu Asp Ile Lys Val Glu Ser Val
        115   120   125
Ile Val Arg Asp Asp Ile Ala Ile Ser Asp Pro Glu Lys Arg Arg Gly
        130   135   140
Val Ala Gly Thr Val Phe Val His Lys Tyr Ala Gly Tyr Leu Ala Glu
145   150   155   160
Lys Gly Val Ala Leu Asp Glu Ile Lys Ser Lys Val Glu Ala Leu Leu
                165   170   175
Pro Asp Ile Lys Ser Ile Gly Met Ala Leu Thr Pro Pro Met Val Pro
                180   185   190
Thr Thr Gly Lys Asn Gly Phe Asp Ile Glu Asp Asn Gln Met Glu Ile
                195   200   205
Gly Ile Gly Ile His Gly Glu Lys Gly Leu His Arg Glu Asp Val Gln
        210   215   220
Pro Ile Asn Val Ile Val Glu Arg Leu Leu Asp Gln Leu Tyr Lys Glu
225   230   235   240
Ile Glu Lys Lys Pro Leu Ile Val Met Val Asn Gly Met Gly Gly Thr
                245   250   255
Pro Leu Ser Glu Leu Asn Ile Val Thr Lys Tyr Leu Asp Glu Gln Phe
                260   265   270
Asn Gln Asn Asp Ile Asp Val Lys Gln Trp Phe Val Gly Asp Tyr Met
                275   280   285
Thr Ala Leu Asp Met Gln Gly Phe Ser Ile Thr Val Leu Pro Phe Ser
        290   295   300
Glu Glu Leu Ser Glu Ala Leu Ala Ala Pro Thr Ala Ser Lys Tyr Phe
305   310   315   320

<210> 4419
<211> 280
<212> PRT
<213> S.epidermidis

<400> 4419
Trp Glu Lys Leu Phe Gln Arg Arg Thr Val Ala Leu Leu Leu Pro Trp
1   5   10   15
Cys Ile Val Arg Arg Phe Arg Leu Ile Met Ser Asn Tyr Gln Gln Lys
            20   25   30

```
Asn Asn Ala Val Asn Thr Val Val Asn Val Asn Gln Leu Ser Ile Leu
        35                  40                  45
Asp Gln Glu Lys Val Leu Leu Lys Asp Val Asp Leu Thr Val Thr Lys
    50                  55                  60
Gly Ala Phe His Cys Ile Ile Gly Glu Ser Gly Ser Gly Lys Ser Leu
65                  70                  75                  80
Leu Thr Arg Thr Ile Leu Gly Met Lys Gln Ser Gln Leu Cys Tyr Gln
            85                  90                  95
Gly Asp Ile Asp Ile Asp Leu Thr Gln Thr Asp Ala Val Phe Gln Asp
        100                 105                 110
Val Gln Ser Asn Met Phe Gln Asn Ile Thr Leu Ala Lys His Phe Gln
        115                 120                 125
Tyr Ile Tyr Glu Ala Asn Arg Thr His Leu Thr Lys Gln Arg Ile Lys
    130                 135                 140
Glu Asp Val Leu Gln Met Met Gln Leu Leu Gly Leu Arg Gln Gly Glu
145                 150                 155                 160
Gln Leu Leu Glu Arg Tyr Pro Phe Glu Leu Ser Gly Gly Met Ala Gln
                165                 170                 175
Arg Val Ala Phe Ile Met Ser Leu Ile Arg Arg Pro Asn Tyr Leu Phe
                180                 185                 190
Leu Asp Glu Pro Thr Ser Ala Leu Asp Gln Glu Asn Ile Lys Lys Phe
            195                 200                 205
Met His Tyr Leu Leu Arg Ala Gln Glu Arg Tyr Gln Met Thr Ile Val
    210                 215                 220
Phe Ile Thr His Asp Ile Asn Leu Val Lys Asp Cys Ala Thr His Ile
225                 230                 235                 240
Ser Ile Met Gln Gln Gly Lys Leu Ile Glu Asn Gly Glu Ala Ala Ser
                245                 250                 255
Ile Leu Thr Lys Pro Thr His Asn Tyr Thr Lys Lys Leu Ile Thr Ile
                260                 265                 270
Ala His Arg Arg Gln Pro Tyr Ala
        275                 280


<210> 4420
<211> 76
<212> PRT
<213> S.epidermidis

<400> 4420
Ala Pro Ile Thr Ile Pro Ile Thr Val Phe Val Ala Pro Lys Ser Cys
1               5                   10                  15
Pro Leu Arg Gly Met Lys Thr Leu Ser Met Ala Phe Ala Leu Lys Asn
            20                  25                  30
Ile Asn Val Lys Ile Tyr Asn Leu Lys Lys Gly Gln Asp Met Ala Pro
        35                  40                  45
Phe Ile Leu Ser Leu Leu Arg Leu Ile Val Val Tyr Gln Ser Val Leu
    50                  55                  60
Leu Tyr Asn His Phe Val Ala Tyr Ala Ile His Leu
65                  70                  75


<210> 4421
<211> 327
<212> PRT
<213> S.epidermidis

<400> 4421
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Lys Lys Glu Leu Lys Ile Met Thr Leu Asn Leu Ala Gln Arg Val Leu
1               5                   10                  15
Asn Arg Glu Pro Leu Thr Lys Glu Glu Ala Leu Thr Ile Phe Glu Ser
            20                  25                  30
Ser Glu Leu Asp Thr Phe Asp Leu Leu Asn Glu Ala Tyr Thr Val Arg
        35                  40                  45
Lys His Tyr Tyr Gly Lys Lys Val Lys Leu Asn Met Ile Leu Asn Ala
        50                  55                  60
Lys Ser Gly Ile Cys Ala Glu Asp Cys Gly Tyr Cys Gly Gln Ser Val
65                  70                  75                  80
Lys Met Lys Glu Lys Gln Arg Tyr Ala Leu Val Glu Gln Asp Gln Ile
            85                  90                  95
Lys Glu Gly Ala Gln Val Ala Thr Glu Asn Gln Ile Gly Thr Tyr Cys
            100                 105                 110
Ile Val Met Ser Gly Arg Gly Pro Ser Asn Arg Glu Val Asp His Ile
        115                 120                 125
Cys Glu Thr Val Glu Asp Ile Lys Lys Ile His Pro Gln Leu Lys Ile
    130                 135                 140
Cys Ala Cys Leu Gly Leu Thr Lys Glu Glu Gln Ala Lys Lys Leu Lys
145                 150                 155                 160
Ala Ala Gly Val Asp Arg Tyr Asn His Asn Leu Asn Thr Ser Glu Arg
            165                 170                 175
Tyr His Asp Glu Val Val Thr Thr His Thr Tyr Glu Asp Arg Val Asn
            180                 185                 190
Thr Val Glu Met Met Lys Asp Asn Asn Ile Ser Pro Cys Ser Gly Val
            195                 200                 205
Ile Cys Gly Met Gly Glu Ser Asn Glu Asp Ile Ile Asp Met Ala Phe
    210                 215                 220
Ala Leu Arg Ala Ile Asp Ala Asp Ser Ile Pro Ile Asn Phe Leu His
225                 230                 235                 240
Pro Ile Lys Gly Thr Lys Phe Gly Gly Leu Asp Leu Leu Ser Pro Met
            245                 250                 255
Lys Cys Leu Arg Ile Ile Ala Met Phe Arg Leu Ile Asn Pro Thr Lys
            260                 265                 270
Glu Ile Arg Ile Ala Gly Gly Arg Glu Val Asn Leu Arg Ser Leu Gln
            275                 280                 285
Pro Leu Ala Leu Lys Ala Ala Asn Ser Ile Phe Val Gly Asp Tyr Leu
    290                 295                 300
Ile Thr Gly Gly Gln Pro Asn Glu Glu Asp Tyr Arg Met Ile Glu Asp
305                 310                 315                 320
Leu Gly Phe Glu Ile Asp Ser
                    325
```

```
<210> 4422
<211> 142
<212> PRT
<213> S.epidermidis

<400> 4422
Met Glu Ile Thr Ser Val Asn His Ile Cys Phe Ser Val Ser Asp Leu
1               5                   10                  15
Asn Thr Ser Ile Gln Phe Tyr Lys Asp Ile Leu His Gly Asp Leu Leu
            20                  25                  30
Val Ser Gly Arg Thr Thr Ala Tyr Leu Thr Ile Gly His Thr Trp Ile
        35                  40                  45
Ala Leu Asn Gln Glu Lys Asn Ile Pro Arg Asn Glu Ile Ser His Ser
```

```
            50                      55                      60
Tyr Thr His Ile Ala Phe Ser Ile Asp Glu Glu Asp Phe Gln Gln Trp
65                      70                      75                      80
Ile Gln Trp Leu Lys Glu Asn Gln Val Asn Ile Leu Lys Gly Arg Pro
                        85                      90                      95
Arg Asp Ile Lys Asp Lys Lys Ser Ile Tyr Phe Thr Asp Pro Asp Gly
                100                     105                     110
His Lys Ile Glu Leu His Thr Gly Thr Leu Lys Asp Arg Met Glu Tyr
            115                     120                     125
Tyr Lys Cys Glu Asn Thr His Met Gln Phe Tyr Asp Glu Phe
        130                     135                     140
```

<210> 4423
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4423
```
Lys Lys Val Thr Leu His Thr Arg Tyr Ile Lys Tyr Met Tyr Leu Thr
1                       5                       10                      15
Phe Lys Ile Lys Tyr Met Gly Gly Ile Ile Trp Ala Asn Val Asp Lys
                20                      25                      30
Val Leu Leu Ile Lys Lys Trp Ile Phe Tyr Leu Thr Asn
            35                      40                      45
```

<210> 4424
<211> 273
<212> PRT
<213> S.epidermidis

<400> 4424
```
Lys His Val Thr Leu Leu Lys Val Ala His Leu Gly Ile Lys Asp Thr
1                       5                       10                      15
Trp Ser Asp Glu Thr Leu Val Asp Asn Val Asn Phe Thr Val Gln Cys
                20                      25                      30
Gly Glu Thr Leu Gly Ile Ile Gly Glu Ser Gly Ser Gly Lys Ser Ile
            35                      40                      45
Thr Cys Lys Ala Leu Ile Gly Leu Asn Ala Gln Arg Leu Ser Val Ser
        50                      55                      60
Gly Asp Ile Phe Phe Glu His Gln Asn Leu Asn Thr Ile Thr Glu Lys
65                      70                      75                      80
Gln Leu Arg Lys Ile Arg Gly Lys Asp Ile Ala Met Ile Met Gln Gln
                85                      90                      95
Gly Thr Arg Ala Phe Asp Pro Ser Thr Lys Val Gly Lys Gln Met Ile
                100                     105                     110
Glu Thr Leu Arg Ala His Thr Thr Leu Ser Lys Gln Gln Ile Lys Gln
            115                     120                     125
Glu Leu Ile His Tyr Met Thr Tyr Met Lys Leu Lys Asp Pro Gln Ser
        130                     135                     140
Leu Leu Lys Ala Tyr Pro Tyr Met Leu Ser Gly Gly Met Leu Gln Arg
145                     150                     155                     160
Met Met Ile Ala Leu Ala Leu Ala Leu Lys Pro Lys Leu Ile Ile Ala
                165                     170                     175
Asp Glu Pro Thr Thr Ala Leu Asp Thr Ile Thr Gln Tyr Glu Val Ile
                180                     185                     190
Asn Ala Phe Lys Asp Ile Lys His His Phe Asp Cys Ala Met Ile Phe
```

```
            195                    200                    205
Ile Ser His Asp Leu Thr Val Ile Asn Lys Ile Ala Asp Arg Val Val
    210                    215                    220
Val Met Arg Glu Gly Arg Val Ile Glu Glu Gly Arg Thr Asn Met Val
225                    230                    235                    240
Leu Gln Gln Pro Arg His His Tyr Thr Ala Tyr Leu Leu Ser Thr Lys
                245                    250                    255
Lys Thr Ile Tyr Asp Tyr Phe Gln Phe Val Leu Arg Gly Asp Phe Asn
                260                    265                    270
Ala
```

<210> 4425
<211> 309
<212> PRT
<213> S.epidermidis

<400> 4425
```
Phe His Tyr Leu Lys Glu Arg Asn Glu Met Lys Arg His Phe Leu Ala
1               5                  10                     15
Ile Gly Ala Ile Thr Ile Thr Thr Leu Leu Ala Gly Cys Asp Phe Gly
            20                     25                     30
Asp Leu Val Gly Gln His Gln Ser Asp Lys Gln Ser Glu Asn Ser Asn
            35                     40                     45
Thr Gln Thr Glu Gln Ala Ser Asn Asn Lys Asn Ser Asn Ser Asp Asn
        50                     55                     60
Asp His Ser Asn Asn Asn Asp Glu Ser Arg Asp Arg Val Glu Asp Leu
65                     70                     75                     80
Thr Gln Ser Gln Lys Val Ala Leu Ala Ile Asn Asp Pro Ser Val Ser
                85                     90                     95
Gln Tyr Val Val Asn Ala Ser Glu Leu Arg Asn His Ser Phe Tyr Ala
            100                    105                    110
Asn Tyr Asn Gly Gly Gly Gln Arg Lys Ser Ile His Thr Tyr Lys Leu
            115                    120                    125
Glu Ser Leu Pro Lys Lys Val Glu Gly Ala Pro Asn Asp Met Thr Phe
        130                    135                    140
Tyr Thr Ala Lys Pro Ser Lys Gly Ser Phe Val Thr Leu Ile Gly Ile
145                    150                    155                    160
Gly Asn Glu Lys Val Leu Ile Ala Gly Thr Gln Ser Ser Gly Thr Tyr
                165                    170                    175
Gln Gln Tyr Ala His Ser Glu Ala Ala Arg Glu Leu Asp Leu His Glu
            180                    185                    190
Leu Leu Asp Lys Tyr Gly Lys Ser Ser Asn Tyr Lys Asn Leu Ala Asn
            195                    200                    205
Gln Ile Thr Phe Thr Gln Gly Gln Leu Ser Asn Ala Ser Glu Tyr Thr
        210                    215                    220
Ser Asp Glu Gly Thr Ser Asn Asn Asp Ala Ser Asn Asp Asp Lys Val
225                    230                    235                    240
Thr Arg Asp Asn Val Ile Asp Lys Val Glu Ala Tyr Glu Gly His Gln
            245                    250                    255
Leu Asp Thr Asp Thr Tyr Thr Phe Lys Glu Pro Glu Gln Asn Glu Asp
            260                    265                    270
Gly Asp Trp Gly Phe Ser Ile Leu Asp Lys Glu Gly Asn Leu Glu Gly
            275                    280                    285
Ser Tyr Ile Val Thr Ser Asp Gly Glu Val Thr Lys Tyr Asp Glu Asn
        290                    295                    300
```

Gly Glu Glu Ile Glu
305

<210> 4426
<211> 65
<212> PRT
<213> S.epidermidis

<400> 4426
Leu Leu Tyr Phe Lys Ile Ile Ile Val Phe Lys Tyr Ile Ile Leu Val
1   5   10   15
Ile Ser Ile Leu Ile Val Ser Glu Ile Lys Phe Asn Ser Thr Thr Thr
            20   25   30
Gln Lys Arg Glu Gly Glu Phe Val Leu Ser Phe Leu Gly Phe Leu Lys
        35   40   45
Val Asn Lys Lys Val Leu Ser Asn Gly Met Glu Leu Leu Asn Ile Phe
    50   55   60
Ser
65

<210> 4427
<211> 327
<212> PRT
<213> S.epidermidis

<400> 4427
Val Leu Tyr Leu Glu Met Thr Tyr Cys Ser Leu Ser Ile Lys Ile Tyr
1   5   10   15
Thr Leu Lys Ile Leu Ile Val Leu Thr Ile Gly Gly His Val Val Ile
            20   25   30
Met Ser Gln Phe Lys Asp Thr Leu Tyr Lys Leu Phe Glu Pro Met Met
        35   40   45
Lys Ile Glu Phe Tyr Gln Asn Leu Leu Val Asn Leu Leu Ile Ile Leu
    50   55   60
Ala Tyr Ile Leu Met Gly Met Ile Val Ile Ala Ile Ser Arg Lys Leu
65   70   75   80
Val Thr Lys Phe Phe Asn Val Asn Glu Lys Lys Lys Asn Arg His Lys
                85   90   95
Ile Lys Arg Ser Glu Thr Leu Ser Thr Leu Ile Gln Asn Leu Ile Ser
            100   105   110
Tyr Val Val Trp Phe Ile Val Leu Thr Ser Ile Leu Ser Arg Phe Gly
        115   120   125
Ile Ser Val Ser Ala Ile Leu Ala Gly Ala Gly Val Val Gly Val Ala
    130   135   140
Val Gly Phe Gly Ala Gln Thr Ile Val Lys Asp Ile Ile Thr Gly Phe
145   150   155   160
Phe Ile Ile Phe Glu Gly Gln Phe Asp Val Ser Asp Tyr Val Gln Ile
                165   170   175
Asn Ala Ser Gly Val Thr Ile Ala Glu Gly Thr Val Lys Thr Ile Gly
            180   185   190
Leu Arg Ser Thr Arg Ile Gln Ser Asp Thr Gly Glu Ile Tyr Thr Leu
        195   200   205
Pro Asn Gly Met Ile Ser Glu Ile Val Asn Tyr Ser Ala Thr Asp Val
    210   215   220
Ser Pro Ile Val Met Ile Pro Ile Ser Pro Asn Glu Asn Tyr Lys Val
225   230   235   240

Ile Glu Glu Lys Leu Leu Thr Phe Leu Pro Thr Leu Lys Asn Lys Tyr
                245   250   255
Asp Ile Phe Val Ser Ala Pro Asp Leu Leu Gly Leu Asp Ser Val Asp
                260   265   270
Gly Asn Glu Met Val Ile Lys Leu Leu Ala His Val Lys Pro Gly Met
            275   280   285
His Phe Pro Gly Gln Arg Leu Leu Arg Lys Glu Val Ile Gln Tyr Phe
        290   295   300
Ser Glu Glu Gly Ile His Ile Pro Lys Pro Thr Leu Val Lys Leu Asp
305   310   315   320
Lys Glu Leu Asn Lys Lys Glu
                325

<210> 4428
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4428
Leu Asp Ser Ala Ala Cys Thr Glu Pro Pro Pro Ile Asn Asn Ile Asp
1   5   10   15
Ala Thr Met Ile Glu Asp Ala Pro Thr Leu Asn Phe Arg Met Leu Tyr
            20   25   30
Glu Phe Phe Leu Phe Phe Met Phe Lys Ala Pro Leu Ser Phe Leu Tyr
        35   40   45
His Leu
    50

<210> 4429
<211> 208
<212> PRT
<213> S.epidermidis

<400> 4429
Ile Met Tyr Leu Tyr Val Thr Lys Met Thr Glu Thr Leu Glu Glu Val
1   5   10   15
Glu Leu Leu Leu Asn Arg Ser Ser Arg Gln Leu Lys Lys Pro Glu Arg
            20   25   30
Ile His Tyr Arg Phe Leu Lys Asp Arg Leu Met His Gln Leu Gly Asp
        35   40   45
Ala Leu Ile Gln Tyr Ala Ile Glu Gln Cys Ala Gly Leu Thr Pro Lys
    50   55   60
Glu Trp Glu Tyr His Ile Thr Thr Met Gly Lys Val Glu Ile Arg Ser
65   70   75   80
Ser Cys His Ile Tyr Val Ser Ile Ser Tyr Ser Tyr Pro Tyr Ile Ile
                85   90   95
Cys Ile Ile Asp Asn Gln Pro Ile Gly Ile Asp Ile Glu Glu Met Lys
            100   105   110
Asp Leu Asp Tyr Lys His Leu Ala Lys Asn Phe Thr Lys Asn Glu Phe
        115   120   125
Asn Gln Val Thr Thr Leu Lys Asp Phe Tyr Glu Ile Trp Thr Lys Lys
        130   135   140
Glu Ser Tyr Thr Lys Leu Ile Gly Glu Gly Leu Met Asn Gly Leu Asp
145   150   155   160
Cys Tyr Asp Val Thr Gln Asn Leu Arg Phe Leu Lys Lys His Val Gln
                165   170   175

Phe Thr Ser Val Asp Tyr Phe Lys Arg Leu Ile Gln Ile Cys His Met
            180   185   190
Ser Lys His Ser Leu Asn Phe Glu Val Val Pro Leu Thr Gln Leu Leu
        195   200   205

<210> 4430
<211> 292
<212> PRT
<213> S.epidermidis

<400> 4430
Gln Phe Asn Leu Lys Ile Tyr Ile Lys Lys Glu Cys Phe Met Gln Arg
1   5   10   15
Gln Val Val Glu Phe Ser Lys Tyr Asn Pro Ser Gly Asn Met Thr Ile
            20   25   30
Leu Val His Ser Lys His Gln Pro Ser Glu Tyr Ala Ala Ile Ala His
        35   40   45
Gln Leu Met Ala Thr Thr His Met Cys Cys Glu Gln Val Gly Phe Ile
        50   55   60
Glu Ser Val Asn Tyr Glu Asn Gly Asp Asn Tyr His Leu Val Met Ser
65   70   75   80
Gly Asn Glu Phe Cys Gly Asn Ala Thr Met Ser Tyr Ile His Tyr Leu
                85   90   95
Lys Glu Arg Leu Leu Ile Gln His Gln Gln Phe Gln Leu Arg Val Ser
            100   105   110
Gly Cys Ser His Pro Val Glu Cys Lys Val His Ser Gln His Tyr Glu
        115   120   125
Val Thr Met Pro Lys Val His Gln Val Lys Glu Arg Phe Val Lys Leu
        130   135   140
Gly Glu Gln Gln Phe Lys Ala Phe Glu Ile Ser Tyr Asp Thr Tyr Ile
145   150   155   160
His Tyr Val Met Met Cys Asp Asp Val Asp Leu Ala Ile Lys Gln Cys
                165   170   175
Val Glu Asp Phe Val Ser Ala Gln Thr Trp His Arg Gln Phe Lys Thr
            180   185   190
Ile Gly Val Met Leu Phe Gln Gln Asp Lys Gln Phe Ile Tyr Pro Leu
            195   200   205
Ile His Ile Pro Ala Ile Asp Ser Leu Ile Trp Glu Asn Ser Cys Gly
        210   215   220
Ser Gly Ala Ala Ser Ile Gly Val Leu Val Asn Tyr Leu Thr Asp His
225   230   235   240
Asp Ile Gln Asp Tyr Leu Val Asn Gln Pro Gly Gly Ser Ile Ile Val
            245   250   255
Ser Ser Arg Lys Ser Gly Gln Asn Glu Tyr Gln Thr Thr Ile Lys Gly
            260   265   270
Gln Val Ser Thr Val Ala Thr Gly Gln Ala Tyr Ile Glu Gln Glu Thr
        275   280   285
Met Thr Gln Ile
    290

<210> 4431
<211> 503
<212> PRT
<213> S.epidermidis

<400> 4431

```
Tyr Ile Asn Leu Glu Arg Asn Met His Met Ser Glu Ala Asn His Lys
1               5                   10                  15
Asn Ile Val Val Val Gly Ala Gly Ile Ile Gly Thr Ser Val Ala Thr
            20                  25                  30
Met Leu Ser Lys Val Ser Pro Asn Trp His Ile Asp Met Phe Glu Arg
        35                  40                  45
Leu Glu Gly Ala Gly Ile Glu Ser Ser Asn Glu Asn Asn Asn Ala Gly
    50                  55                  60
Thr Gly His Ala Ala Leu Cys Glu Leu Asn Tyr Thr Val Glu Gln Asp
65                  70                  75                  80
Asp Gly Ser Ile Asp Ala Ser Lys Ala Gln Glu Ile Asn Glu Gln Phe
            85                  90                  95
Glu Leu Ser Arg Gln Phe Trp Gly Asn Leu Val Lys Asn Gly Asp Ile
        100                 105                 110
Ser Asn Pro Glu Glu Phe Ile Gln Pro Leu Pro His Ile Ser Phe Val
        115                 120                 125
Met Gly Pro Thr Asn Val Asn Phe Leu Arg Lys Arg Tyr Glu Thr Leu
        130                 135                 140
Arg Thr Leu Pro Met Phe Asp Thr Ile Glu Tyr Thr Glu Asp Met Glu
145                 150                 155                 160
Thr Met Arg Lys Trp Met Pro Leu Met Met Glu Asn Arg Glu Pro Gly
            165                 170                 175
His Gln Met Ala Ala Ser Lys Ile Asp Glu Gly Thr Asp Val Asn Tyr
        180                 185                 190
Gly Ala Leu Thr Arg Lys Leu Ala His Tyr Leu Glu Gln Lys Ser Asn
        195                 200                 205
Val Ser Leu Lys Tyr Asn His Asp Val Val Asp Leu Thr Gln Arg Glu
        210                 215                 220
Asp Gly Lys Trp Glu Val Val Val Glu Asn Arg Glu Thr Lys Glu Lys
225                 230                 235                 240
Val Thr Lys Ile Ala Asp Lys Val Phe Ile Gly Ala Gly Gly His Ser
            245                 250                 255
Ile Pro Leu Leu Gln Lys Ser Gly Val Lys Gln Arg Glu His Leu Gly
            260                 265                 270
Gly Phe Pro Ile Ser Gly Gln Phe Leu Arg Cys Thr Asn Pro Asp Ile
        275                 280                 285
Ile Lys Gln His Ala Ala Lys Val Tyr Ser Lys Glu Pro Gln Gly Lys
        290                 295                 300
Pro Pro Met Thr Val Pro His Leu Asp Thr Arg Tyr Ile Asn Gly Lys
305                 310                 315                 320
Gln Thr Leu Leu Phe Gly Pro Tyr Ala Asn Ile Gly Pro Lys Phe Leu
            325                 330                 335
Lys Phe Gly Ser Asn Leu Asp Leu Phe Glu Ser Ile Lys Pro Tyr Asn
            340                 345                 350
Ile Thr Thr Met Leu Ala Ser Ala Val Lys Asn Val Pro Leu Ile Lys
        355                 360                 365
Tyr Ser Ile Asp Gln Met Ile Lys Thr Lys Glu Gly Cys Met Asn Tyr
370                 375                 380
Leu Arg Thr Phe Ile Pro Asp Ala Lys Asp Glu Asp Trp Glu Leu Tyr
385                 390                 395                 400
Thr Ala Gly Lys Arg Val Gln Val Ile Lys Asp Ser Glu Gln His Gly
            405                 410                 415
Lys Gly Phe Val Val Phe Gly Thr Glu Val Val Asn Ser Asp Asp Asn
            420                 425                 430
Ser Met Ile Ala Leu Leu Gly Glu Ser Pro Gly Ala Ser Thr Ser Leu
            435                 440                 445
```

Ser Val Val Leu Glu Val Leu Glu Lys Asn Phe Ala Asp Asp Lys Glu
    450   455   460
Ala Trp Glu Pro Val Val Lys Glu Met Val Pro Thr Tyr Gly Arg Ser
465   470   475   480
Leu Ile Asn Asp Glu Lys Leu Met Arg Glu Thr Arg Arg Glu Thr Ser
            485   490   495
Lys Asn Leu His Leu Asn Arg
          500

<210> 4432
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4432
Leu Thr Tyr Tyr Asp Val His Ser Arg Ser Trp Pro Lys Ile Tyr Leu
1   5   10   15
Tyr Gly Val Phe Phe Met Ile Glu Tyr Asp Lys Phe Tyr Phe Lys Ile
          20   25   30
Lys Val Phe Gln Glu Tyr Ile Asn Gly
          35   40

<210> 4433
<211> 415
<212> PRT
<213> S.epidermidis

<400> 4433
Asn Lys Cys Tyr Ile Gln Phe Glu Arg Val Ala Lys Asn Phe Ser Lys
1   5   10   15
Gly Val Leu Phe Met Lys Lys Lys Leu Ser Tyr Met Ile Thr Ile Met
          20   25   30
Leu Ala Phe Thr Leu Ser Leu Ala Leu Gly Leu Phe Phe Asn Ser Ala
          35   40   45
His Ala Asp Ser Leu Pro Gln Lys Asn Gly Ala Asn Gln Lys Thr Thr
          50   55   60
Lys Val Thr Val Ser Asn Lys Asp Val Pro Asp Ala Val Arg Lys Leu
65   70   75   80
Ala Glu Glu Gln Tyr Leu Ser Arg Val Ala Leu Leu Asp Lys Ala Ser
              85   90   95
Asn His Lys Ala Thr Ser Tyr Thr Leu Gly Glu Pro Phe Lys Ile Tyr
          100   105   110
Lys Phe Asn Lys Glu Ser Asp Gly Asn Tyr Tyr Tyr Pro Val Leu Asn
          115   120   125
Lys Lys Gly Asp Val Ile Tyr Val Val Thr Ile Ser Pro Asn Pro Ser
          130   135   140
Asn Ser Lys Ala Ser Lys Gln Gln Asn Asn Tyr Ser Ile Asn Val Ser
145   150   155   160
Pro Phe Leu Ser Lys Ile Leu Asn Gln Tyr Lys Asn Gln Lys Ile Thr
              165   170   175
Ile Leu Thr Asn Thr Lys Gly Tyr Phe Ala Leu Thr Glu Asp Gly Lys
          180   185   190
Val Thr Leu Val Leu Lys Thr Pro Arg Asn Asn Glu Lys Thr Tyr Glu
          195   200   205
Asn Ala Thr Glu Ser Thr Lys Pro Lys Asp Leu Asn Asp Phe Lys Gln
          210   215   220

```
Thr Ala Ser Val Thr Lys Pro Thr Leu Glu Tyr Gln Ser Thr Arg Asn
225                 230                 235                 240
Glu Met Tyr Ala Glu Tyr Val Asn Gln Leu Lys Asn Phe Arg Ile Arg
                245                 250                 255
Glu Thr Gln Gly Tyr Asn Ser Trp Cys Ala Gly Tyr Thr Met Ser Ala
                260                 265                 270
Leu Leu Asn Ala Thr Tyr Asn Thr Asn Arg Tyr Asn Ala Glu Ser Val
            275                 280                 285
Met Arg Tyr Leu His Pro Asn Leu Arg Gly His Asp Phe Gln Phe Thr
            290                 295                 300
Gly Leu Thr Ser Asn Glu Met Leu Arg Phe Gly Arg Ser Gln Gly Arg
305                 310                 315                 320
Asn Thr Gln Tyr Leu Asn Arg Met Thr Ser Tyr Asn Glu Val Asp Gln
                325                 330                 335
Leu Thr Thr Asn Asn Gln Gly Ile Ala Val Leu Gly Lys Arg Val Glu
                340                 345                 350
Ser Ser Asp Gly Ile His Ala Gly His Ala Met Ala Val Ala Gly Asn
            355                 360                 365
Ala Lys Val Asn Asn Gly Gln Lys Val Ile Leu Ile Trp Asn Pro Trp
    370                 375                 380
Asp Asn Gly Leu Met Thr Gln Asp Ala His Ser Asn Ile Ile Pro Val
385                 390                 395                 400
Ser Asn Gly Asp His Tyr Glu Trp Tyr Ala Ser Ile Tyr Gly Tyr
                405                 410                 415


<210> 4434
<211> 298
<212> PRT
<213> S.epidermidis


<400> 4434
Glu Lys Arg Tyr Arg Ile Gly Tyr Phe Lys Lys Val Gln Gly Ile Gly
1               5                   10                  15
Lys Glu Val Val Pro Thr Val Val Ile Asp Leu Val Asp Gln Leu Lys
            20                  25                  30
Val Lys Tyr Ser Ile Lys Leu Ile Leu Glu Val Leu Asn Ile Pro Lys
        35                  40                  45
Ser Thr Tyr Tyr Arg Trp Lys Asn Lys Thr Tyr Lys Asn Asp Thr Val
    50                  55                  60
Thr Gln Lys Val Ile Glu Leu Cys Lys Ala Asn His Tyr Thr Tyr Gly
65                  70                  75                  80
Tyr Arg Lys Ile Thr Ala Leu Ile Asn Gln Cys Tyr Thr Ser Pro Ile
                85                  90                  95
Asn His Lys Arg Val Gln Arg Met Met Gln Lys His His Leu Asn Cys
            100                 105                 110
Arg Val Arg Pro Lys Lys Thr Thr Arg Ile Gly Lys Pro Tyr Tyr Lys
        115                 120                 125
Thr Asp Asn Leu Leu Gln Arg Gln Phe Lys Ala Ser Cys Pro Ile Glu
    130                 135                 140
Val Leu Thr Thr Asp Ile Thr Tyr Leu Pro Phe Gly His Ser Met Leu
145                 150                 155                 160
Tyr Leu Ser Ser Ile Met Asp Ile Tyr Asn Gly Glu Ile Val Ala Tyr
                165                 170                 175
Lys Ile Asp Asp Lys Gln Asp Gln Ser Leu Val Asn Asp Thr Leu Asn
            180                 185                 190
Gln Ile Asp Ile Pro Glu Gly Cys Ile Leu His Ser Asp Gln Gly Ser
```

```
                195                       200                       205
Val Tyr Thr Ser Tyr Ala Tyr Tyr Gln Leu Cys Glu Glu Lys Gly Ile
      210                       215                   220
Ile Arg Ser Met Ser Arg Lys Gly Thr Pro Ala Asp Asn Ala Pro Ile
225                       230                   235                   240
Glu Ser Phe His Pro Ser Leu Lys Ser Glu Thr Phe Tyr Ile Asn Asn
                  245                   250                       255
Glu Leu Asn Arg Ser Asn His Ile Val Ile Asp Ile Val Glu Lys Tyr
              260                   265                   270
Ile Lys Asn Tyr Asn Asn Asn Arg Ile Gln Gln Lys Leu Gly Tyr Leu
              275                   280                   285
Ser Pro Val Lys Tyr Arg Glu Leu Ile Ala
          290                   295
```

```
<210> 4435
<211> 79
<212> PRT
<213> S.epidermidis


<400> 4435
Asn Thr Leu Tyr Cys Thr Ser Lys Arg Ile Tyr Ile Thr Asn Asn Gly
1               5                   10                      15
Gly His His Asp Phe Asn Tyr Phe Ile Tyr Leu Phe Leu Tyr Ser Thr
              20                   25                   30
His Gln Leu Lys Asp Ile Tyr Ala Thr Arg Lys Thr Ala Lys Gly Arg
          35                   40                   45
Gly Arg Gly Gly Ile Trp Cys Glu Lys Phe Lys Ile Ser Ser His Tyr
      50                   55                   60
Ala Cys Ile Asn Leu His Glu Cys Ser Tyr Arg Asn Ile His Ser
65                   70                   75
```

```
<210> 4436
<211> 261
<212> PRT
<213> S.epidermidis


<400> 4436
Glu Lys Arg Tyr Asp Val Met Lys Lys Tyr Gln Thr Tyr Ile Ala Ile
1               5                   10                      15
Gly Ser Leu Leu Ser Leu Met Val Val Leu Ile Thr Tyr Gly Leu Met
              20                   25                   30
Gln Asp Thr Gln His Leu Asn Pro Leu Glu Ser Pro Asn Gly Gln His
          35                   40                   45
Trp Leu Gly Thr Asp Gln Leu Gly Arg Asp Phe Leu Val Arg Leu Ile
      50                   55                   60
Val Gly Ser Leu Val Thr Leu Ser Leu Thr Gly Ile Val Ile Leu Leu
65                   70                   75                      80
Ser Val Cys Met Gly Leu Ile Phe Gly Leu Ile Ala Gly Ile Glu Arg
                  85                   90                   95
Arg Trp Leu Asp Gln Ile Ile Met Phe Val Ala Asp Met Leu Leu Ala
              100                   105                   110
Ile Pro Ser Phe Ile Ile Ala Leu Val Ile Leu Ser Leu Val Ser Asn
          115                   120                   125
Ser Met Ile Gly Leu Ile Leu Ala Leu Thr Ile Gly Trp Ile Gly Arg
          130                   135                   140
Tyr Leu Arg Tyr Phe Arg Asn Leu Thr Arg Asp Ile Gln Lys Arg Pro
```

```
        145                      150                      155                      160
Phe Val Gln Tyr Ala Arg Leu Ser Gly Asn Ser Thr Phe Lys Thr Thr
                     165                      170                      175
Val Thr His Val Ile Pro His Leu Leu Ser Ser Ile Phe Ala Leu Val
                     180                      185                      190
Thr Ala Asp Phe Gly Lys Met Met Leu Ser Ile Ser Gly Leu Ala Phe
                     195                      200                      205
Leu Gly Leu Gly Ile Lys Pro Pro Thr Pro Glu Leu Gly Thr Ile Leu
    210                      215                      220
Phe Asp Gly Lys Ser Tyr Phe Asn Gly Ala Pro Trp Leu Phe Phe Phe
225                      230                      235                      240
Pro Gly Val Leu Leu Gly Gly Phe Ala Leu Leu Cys Gln Ile Ile Asn
                     245                      250                      255
Lys Lys Ile Thr Gln
                     260


<210> 4437
<211> 493
<212> PRT
<213> S.epidermidis


<400> 4437
Met Met Asp Phe Trp Ser Ser Lys Arg Gly Lys Met Leu Glu Ile Thr
1                    5                        10                       15
Val Leu Val Phe Ile Thr Ile Phe Gly Val Gly Ser Gln Phe Phe Ser
                     20                       25                       30
Asn Leu Ala Tyr Ser Leu Asn Gln Gly Ile Leu Gln Thr Ser Phe Gly
         35                       40                       45
Ile Gly Ser Gln Tyr Leu Ile Ile Pro Ser Val Leu Ala Asn Phe Thr
         50                       55                       60
Phe Ala Leu Gly Ile Pro Leu Gly His Thr Leu Thr His Lys Tyr Gly
65                       70                       75                       80
Phe Lys Arg Asn Tyr Leu Cys Phe Val Phe Ile Phe Leu Ile Gly Ser
                     85                       90                       95
Ile Leu Gly Leu Leu Ser Phe Asn Leu Ile Ile Leu Ser Ile Ala Lys
                     100                      105                      110
Met Ile Gln Ser Phe Ser Ser Gly Val Leu Phe Phe Thr Leu Leu Pro
                     115                      120                      125
Lys Leu Phe Leu Asn Phe Pro Lys Gln Tyr Arg Asn Val Phe Leu Leu
    130                      135                      140
Met Val Ile Val Gly Leu Phe Gly Ser Asn Ala Leu Gly Gly Leu Ser
145                      150                      155                      160
Gly Ser Leu Ser Leu Glu Leu Asp Arg Trp His Trp Ile Phe Val Val
                     165                      170                      175
Asn Ile Ile Ser Ala Ile Leu Cys Leu Ile Leu Gly Asn Val Ile Leu
                     180                      185                      190
Arg Lys Asn Glu Tyr His Gln Thr Ser Asp Ile His Ile Ser Arg Ser
                     195                      200                      205
Met Met Ile Thr Leu Val Leu Ser Thr Ile Ser Leu Met Ile Pro Met
    210                      215                      220
Ser Leu Leu Thr Gln Lys Gly Tyr His Ser Leu Trp Val Trp Pro Ile
225                      230                      235                      240
Leu Leu Ile Ala Ile Phe Phe Ile Val Asn Phe Ile Ile Thr Asn Arg
                     245                      250                      255
Gln Ala Thr His Pro Ile Val His Phe His Thr Leu Phe Ser Lys Lys
                     260                      265                      270
```

```
Pro Phe Val Gly Ala Thr Met Ala Ile Ser Ser His Leu Thr Leu Leu
        275                 280                 285
Thr Gly Ile Ala Gly Ile Asn Val Tyr Ile Val Arg Ile Leu Lys Leu
        290                 295                 300
Pro Phe Asp Ile Ser Leu His Phe Tyr Phe Phe Phe Val Gly Val
305                 310                 315                 320
Ile Ile Thr Gly Ile Leu Lys Met Phe Phe Tyr Ser Ser Val Gly Ala
        325                 330                 335
Gly Phe Leu Gly Thr Leu Gly Ser Ser Ala Leu Leu Tyr Val Ser Ile
        340                 345                 350
His Trp Ile Ile Leu Gly Asn Thr Ile Asn Ile Pro Leu Leu Tyr Ile
        355                 360                 365
Gln Gly Leu Leu Leu Gly Phe Gly Ala Ser Met Thr Leu Val Ser Gly
        370                 375                 380
Ser Met Ala Thr Leu Leu Asp Gly Asp Leu Lys Glu Ala Ala Gln Arg
385                 390                 395                 400
Ser Gln Thr Met His Thr Ile Arg Asn Phe Ser Ala Ala Met Leu Ile
        405                 410                 415
Pro Ile Ile Ala Tyr Thr Ile Lys Asn His Ile Gln Lys Gly Thr Gln
        420                 425                 430
Ser Ile Tyr Ala Glu Asn Ile Thr Asp Lys Met Ile Tyr Leu Lys Lys
        435                 440                 445
Leu Gln Asp Val Ala Ile Asp Ala Asp His Gln Ile Phe Leu Leu Met
        450                 455                 460
Ile Ile Phe Asn Met Val Met Phe Val Ser Ser Ile Ile Gln Met Ile
465                 470                 475                 480
Leu Gly Lys Gly Arg Arg Ile Thr Pro Pro Arg Glu Ser
        485                 490
```

<210> 4438
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4438
```
Asn Pro Pro His Leu Arg Tyr Ala Ser Ala Tyr Gln Leu Met Met Arg
1               5                   10                  15
Phe Leu Phe Leu Val Phe Ile Phe Asn Thr Gln Met Ile Leu Tyr Thr
        20                  25                  30
Ser Val Pro Thr Glu Ile Tyr Phe Phe
        35                  40
```

<210> 4439
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4439
```
Arg Pro Ile His Pro Ile Val Lys Ala Ser Ile Lys Pro Ile Met Glu
1               5                   10                  15
Leu Leu Thr Lys Leu Lys Met Thr Asn Ala Ile Ile Asn Asp Gly Ile
        20                  25                  30
Ala Ser Asn Ile Ser Ala Thr Asn Met Met Ile
        35                  40
```

<210> 4440

<211> 477
<212> PRT
<213> S.epidermidis

<400> 4440
```
Lys Glu Tyr His Ser Met Ser Asn Ile Ser Met Thr Thr Ser Lys Arg
1               5                   10                  15
Asn Ala Ile Val Thr Val Met Leu Ile Ser Ala Phe Val Ser Met Leu
            20                  25                  30
Asn Gln Thr Ile Leu Asn Thr Ala Leu Pro Ala Ile Ile Lys Gly Leu
            35                  40                  45
Asn Ile Thr Glu Thr Thr Ala Gln Trp Leu Ile Thr Gly Phe Met Leu
        50                  55                  60
Val Asn Gly Ile Met Ile Pro Leu Thr Ala Phe Leu Met Asp Lys Tyr
65                  70                  75                  80
Ser Thr Arg His Leu Tyr Ile Phe Ser Met Ala Ile Phe Leu Ile Gly
                85                  90                  95
Ser Ile Val Ala Ala Phe Ser Pro Thr Phe Thr Ile Leu Met Ile Ser
            100                 105                 110
Arg Ile Ile Gln Ala Ile Gly Ala Gly Ile Leu Leu Pro Leu Met Gln
            115                 120                 125
Phe Thr Val Phe Thr Leu Phe Pro Ala Glu Gln Arg Gly Phe Ala Met
        130                 135                 140
Gly Leu Ala Gly Val Val Val Gln Ser Ala Pro Ala Ile Gly Pro Thr
145                 150                 155                 160
Leu Thr Gly Leu Phe Val Asp Leu Phe Ser Trp Arg Met Pro Phe Tyr
                165                 170                 175
Leu Val Ser Ala Ile Ala Ala Val Ala Phe Ile Leu Gly Phe Phe Phe
            180                 185                 190
Val Glu Asn Asn Thr Lys Thr Lys Asp Ile Val Leu Asp Lys Ile Ser
            195                 200                 205
Val Val Tyr Ser Thr Phe Gly Phe Gly Leu Ile Leu Phe Ala Phe Ser
        210                 215                 220
Ser Val Ser Thr Phe Gly Ile Thr Ser Leu Pro Val Ile Val Thr Phe
225                 230                 235                 240
Val Leu Gly Ile Ala Ile Ile Ile Ile Phe Thr Thr Arg Gln Leu Lys
                245                 250                 255
Leu Lys His Pro Leu Leu Asn Met Arg Val Phe Lys Asn Lys Val Phe
            260                 265                 270
Thr Leu Ser Ala Val Ser Ser Met Leu Val Tyr Ile Thr Met Val Ser
            275                 280                 285
Pro Ala Leu Leu Ile Pro Ile Tyr Ile Gln Thr Gly Leu Gly Gln Ser
        290                 295                 300
Ala Leu Leu Ser Gly Val Val Val Leu Pro Gly Ala Val Ile Asn Gly
305                 310                 315                 320
Leu Thr Met Val Tyr Thr Gly Lys Ile Phe Asp Lys His Gly Ile Lys
                325                 330                 335
Val Leu Val Ile Pro Gly Phe Ile Leu Leu Ile Ser Met Thr Phe Leu
            340                 345                 350
Tyr Ser Phe Leu Thr Thr Gly Thr Pro Tyr Trp Phe Val Ile Leu Val
        355                 360                 365
Tyr Thr Ile Arg Met Ile Ala Leu Gly Leu Leu Val Met Pro Leu Asn
        370                 375                 380
Thr Val Gly Leu Asn Ala Leu Glu Ser Asp Asp Val Ser His Gly Thr
385                 390                 395                 400
Ala Ile Met Asn Ser Leu Arg Ile Ile Ala Gly Ala Met Gly Thr Ala
```

```
                        405                410                     415
Val Ser Val Thr Ile Leu Ser Ile Val Ala Lys Gln Tyr Thr Ala Ser
                420                425                430
His Ser Thr Met Ser Lys Met Lys Leu Thr Gln Glu Ala Thr Val His
          435                440                445
Gly Ile Asp Val Ala Phe Ile Phe Thr Thr Val Leu Ile Ile Ile Gly
    450                455                460
Phe Ile Leu Ala Leu Phe Ile Lys Glu Glu Lys Asn His
465                470                475
```

<210> 4441
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4441
```
Asp Lys Val His Phe Ile Asn Cys Thr Leu Thr Lys Leu Met Leu Cys
1                5                10                     15
Ile Gln Asn Val Thr His Val Leu Tyr Ile Gln Leu His Phe Phe Ser
                20                25                30
Tyr Gln Asn Thr Val Gln Gln Ile Leu Gln Ile Lys His Ile Gln
          35                40                45
```

<210> 4442
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4442
```
Ile Glu Lys His Ile His Ile Ile Asp Ile Ile Asn Val Arg Leu Gly
1                5                10                     15
Val Leu Thr His Lys Phe Tyr Arg His Phe Asn Leu Glu Leu Ile Ser
                20                25                30
His Met Gly Ile Ile Phe Lys Ile Asn Ser Thr Leu Ser His Phe Pro
          35                40                45
Arg Ser
    50
```

<210> 4443
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4443
```
Gly Ile Arg Gln His Ile Phe Leu Ile Pro Tyr Pro Ser Ile Thr Glu
1                5                10                     15
Phe Asn Tyr Leu Leu Ile Leu Ile Ser Leu Val Asn Asn Tyr Arg Pro
                20                25                30
Val Leu Leu His Val Leu Gln Leu Val Leu Leu Lys Ile Ser Tyr Thr
          35                40                45
Arg
```

<210> 4444
<211> 464
<212> PRT

<213> S.epidermidis

<400> 4444
```
Cys Glu Leu His Met Leu Lys Val Thr Phe Asn Leu Arg Asp Gly Thr
1               5                   10                  15
Phe Thr Asp Ile Pro Asp Asp Ala His Tyr Phe Leu Ile Glu Asp Tyr
            20              25                  30
Asp Lys Leu Thr Pro Ser Gln Gln Thr Leu Leu Lys Arg Tyr Ile Ile
        35              40                  45
Lys His Gln Leu Asp Ile Ser Leu Gln His Ala Ile Leu Ser Ser Pro
    50              55                  60
Leu His Ser Leu Asn Met Ile Lys Lys Leu Glu Thr Phe Val Lys Glu
65              70              75                  80
Ser Lys Ala Tyr His Pro Gln Phe His Asn Ile Ile Cys Gly Trp Cys
            85              90                  95
Phe Ile Val Leu Met Phe Ala Leu Pro Ile Tyr Leu Ser Tyr His Val
            100             105                 110
Ser Asp Gly Leu Gln Tyr Tyr Val Ser His Trp Leu Thr Lys Leu Ser
        115             120                 125
Gln Ile Ser Leu Phe Gln Glu Asn Lys Leu Gln His Ile Leu Phe Gly
    130             135                 140
His Tyr Gly Val Ile Ser Leu Gly Thr Tyr Ser Phe Val Trp Ala Leu
145             150                 155                 160
Pro Val Val Phe Met Ile Ser Leu Ser Thr Ala Leu Ile Asp Ile Thr
            165             170                 175
His Leu Lys His Tyr Ile Val Trp Ser Ile Glu Pro Thr Met Met Arg
        180             185                 190
Leu Gly Leu His Gly Ser Asp Ile Ile Pro Leu Leu Glu Gly Phe Gly
        195             200                 205
Cys Asn Ala Ala Ala Ile Thr Gln Ala Thr His Gln Cys His Arg Cys
        210             215                 220
Thr Lys Val Gln Cys Met Ser Leu Val Ser Phe Gly Thr Ala Cys Ser
225             230             235                 240
Tyr Gln Ile Gly Ala Thr Leu Ser Ile Phe Asn Ala Ser His Arg Ser
            245             250                 255
Trp Leu Phe Leu Pro Tyr Ile Gly Met Val Phe Leu Gly Gly Ile Ile
            260             265                 270
His Asn Lys Leu Trp Tyr Ser His Gln Thr Pro Lys Thr Thr Pro Ser
        275             280                 285
Val Phe Gln Arg Gln Leu Val Arg Trp Pro Lys Pro Asn Leu Leu Leu
        290             295                 300
Lys Ala Ala Trp Lys Ser Ile Gln Met Phe Ile Val Gln Ala Leu Pro
305             310             315                 320
Ile Phe Ile Gly Ile Cys Leu Ile Val Ser Leu Leu Ser Leu Thr Pro
            325             330                 335
Ile Leu Thr Phe Ile Ser Asn Ala Phe Ile Pro Leu Leu Trp Leu Leu
            340             345                 350
Asp Val Pro Thr Gln Leu Ala Pro Gly Ile Leu Phe Ser Met Ile Arg
        355             360                 365
Lys Asp Gly Met Leu Leu Phe Asn Met Asn Gly Gly Thr Leu Ile Gln
        370             375                 380
Arg Leu Ser Ala Phe Gln Leu Leu Leu Leu Val Phe Phe Ser Ser Thr
385             390                 395                 400
Phe Thr Ala Cys Ser Val Thr Met Thr Met Leu Met Arg Arg Leu Gly
            405             410                 415
Ser Ile Leu Gly Ile Lys Met Ile Met Lys Gln Met Val Ser Ser Thr
```

```
                420                      425                      430
Ile Cys Val Thr Ile Leu Val Ile Ala Met Leu Ser Ile Thr Lys Ile
        435                      440                      445
Ser Asp Leu Gly Val Met Leu Trp Lys Ser Leu Leu Ser Val Val Phe
        450                      455                      460
```

<210> 4445
<211> 220
<212> PRT
<213> S.epidermidis

<400> 4445
```
Leu Arg Leu His Ile Gly Asp Asn Leu Met Leu Lys Ile Glu Arg Leu
1               5                   10                  15
Thr Lys Tyr Ile Asp Thr Gln Leu Ile Phe Lys Glu Ile Ser Cys Thr
            20                  25                  30
Ile Asn Asp Gln His Leu Leu Ile Ser Gly Glu Ser Gly Cys Gly Lys
        35                  40                  45
Ser Thr Leu Ala Lys Ile Ile Ala Gly Leu Asp Thr Asp Tyr Gln Gly
        50                  55                  60
Glu Leu Tyr Leu Asn Gly Arg Leu Arg Glu Ser Tyr Thr Ser Lys Glu
65                  70                  75                  80
Trp Met Lys His Ile Gln Tyr Val Pro Gln Tyr Gln Arg Asp Thr Leu
                85                  90                  95
Asn Gln Arg Lys Thr Val Leu Ala Thr Leu Leu Glu Pro Leu Lys Asn
            100                 105                 110
Tyr Lys Val Asn Lys Gln Arg Tyr Thr Ser Ser Ile Glu Ala Val Leu
            115                 120                 125
Asp Gln Cys Asn Leu Pro His Asp Ile Leu Asn His Lys Val Ser Thr
        130                 135                 140
Leu Ser Gly Gly Gln Phe Gln Arg Val Trp Ile Ala Lys Ala Leu Ile
145                 150                 155                 160
Leu Glu Pro Glu Ile Leu Ile Leu Asp Glu Ala Thr Thr Asn Leu Asp
                165                 170                 175
Val Ile Asn Glu Glu Ala Ile Leu Gln Met Leu Ile Ser Leu Lys Met
            180                 185                 190
Thr Gln Leu Ile Ile Ile Ser His Asp Thr Tyr Val Leu Ser Gln Phe
        195                 200                 205
Glu Gly Ile Gln Leu Gln Leu Asn Lys Leu Asn Asn
    210                 215                 220
```

<210> 4446
<211> 127
<212> PRT
<213> S.epidermidis

<400> 4446
```
Thr Met Lys His His Arg Cys Leu Leu His Cys Lys Gln Lys Lys Glu
1               5                   10                  15
Ala Met Gln Lys His Leu Asn Leu Ser Gln Arg Arg Gln Lys Lys Glu
            20                  25                  30
Ala Met Gln Lys His Leu Asn Leu Ser Gln Arg Arg Gln Lys Lys Glu
        35                  40                  45
Ala Met Gln Lys His Leu Asn Leu Ser Gln Arg Arg Gln Lys Lys Glu
        50                  55                  60
Ala Met Gln Lys His Leu Asn Leu Ser Gln Arg Arg Gln Lys Lys Glu
```

```
65                    70                    75                    80
Ala Met Gln Lys His Leu Asn Leu Ser Gln Arg Arg Gln Lys Lys Glu
                85                    90                    95
Ala Met Gln Lys His Arg Met Phe Gln Leu Ser Lys Leu Ile Gln Ile
            100                   105                   110
Met Ile His Lys His Asn Phe Gln Lys Pro Leu Gln Glu Met Thr
            115                   120                   125
```

<210> 4447
<211> 281
<212> PRT
<213> S.epidermidis

<400> 4447
```
Leu Ser Phe Lys Asn Asp Thr Gly Gly Met Lys Met Thr Asn Arg Leu
1               5                   10                    15
Ile Leu Phe Asp Phe Asp Glu Thr Tyr Tyr Lys His Arg Thr Asn Gln
                20                    25                   30
Ala Asp Ile Pro Tyr Leu Lys Glu Met Glu Ser Leu Leu Gln Asn Ile
            35                    40                    45
Thr Ala Lys Asn Asn Val Ile Thr Ala Ile Leu Thr Gly Ser Thr Ile
        50                    55                    60
Glu Ser Val Leu Lys Lys Met Ser Lys Val Asn Met Ser Tyr Lys Pro
65                    70                    75                    80
Gln His Ile Phe Ser Asp Leu Ser Ser Lys Met Phe Thr Trp Asn Asn
                85                    90                    95
Cys Glu Tyr Ile Glu Ser Asp Glu Tyr Lys Asn Glu Val Leu Ile Glu
            100                   105                   110
Pro Phe Leu Leu Glu Asp Ile Leu Asp Ile Leu Lys His Val Ser Ser
            115                   120                   125
Lys His Lys Val Glu Phe Ile Pro Gln Arg Ile Phe Arg Glu Asn Glu
            130                   135                   140
Thr Leu Tyr Asn Phe Tyr Leu Tyr Ser Ser Gly Asp Thr His Leu Asp
145                   150                   155                   160
Lys Thr Ile Leu Glu Asp Leu Ser Gln Tyr Ser Lys Thr Arg Asp Tyr
                165                   170                   175
Thr Met Thr Phe Asn Arg Cys Asn Pro Leu Ala Gly Asp Pro Glu Asn
            180                   185                   190
Ala Tyr Asp Ile Asn Phe Thr Pro Lys Asn Ala Gly Lys Leu Tyr Ala
            195                   200                   205
Thr Lys Phe Leu Met Asn Lys Tyr Gly Val Pro Lys Glu Leu Ile Ile
            210                   215                   220
Gly Phe Gly Asp Ser Gly Asn Asp Glu Ala Phe Leu Ser Tyr Leu Asp
225                   230                   235                   240
His Ala Met Ile Met Ser Asn Ser Gln Asp Glu Glu Met Lys Ser Lys
                245                   250                   255
Phe Lys Asn Thr Lys Tyr Pro Tyr Tyr Lys Gly Ile Tyr Thr His Val
            260                   265                   270
Arg Glu Phe Ile Glu Tyr Glu Asn Val
            275                   280
```

<210> 4448
<211> 304
<212> PRT
<213> S.epidermidis

<400> 4448
Cys Asn Ile Lys Ser Ala Phe Lys Gly Gly Asn Glu Met Ile Val Leu
1   5   10   15
Arg Arg Leu Phe Gln Asp Arg Gly Ala Ile Phe Ala Ile Ala Ile Ile
            20   25   30
Thr Ile Tyr Val Val Leu Gly Val Leu Ala Pro Leu Ile Thr Phe Tyr
        35   40   45
Glu Pro Asn His Ile Asp Thr Ala Asn Lys Phe Ala Gly Ile Ser Trp
    50   55   60
Ser His Trp Leu Gly Thr Asp His Leu Gly Arg Asp Val Leu Thr Arg
65   70   75   80
Ile Ile Tyr Ala Ile Arg Pro Ser Leu Leu Tyr Val Phe Val Ala Leu
                85   90   95
Ile Ile Ser Val Val Ile Gly Ala Ile Leu Gly Phe Ile Ser Gly Tyr
            100   105   110
Phe Pro Gly Tyr Ile Asp Ala Ile Ile Met Arg Ile Cys Asp Val Met
        115   120   125
Leu Ala Phe Pro Ser Tyr Val Val Thr Leu Ala Leu Ile Thr Leu Phe
    130   135   140
Gly Met Gly Val Glu Asn Ile Ile Ile Ala Phe Ile Leu Thr Arg Trp
145   150   155   160
Ala Trp Phe Cys Arg Val Ile Arg Thr Ser Val Met Gln Tyr Ile Glu
            165   170   175
Ala Asp His Val Lys Phe Ala Lys Val Ile Gly Met Asn Asp Leu Thr
        180   185   190
Ile Ile Arg Lys His Ile Leu Pro Leu Thr Phe Thr Asp Ile Ala Ile
        195   200   205
Ile Ala Ser Ser Ser Met Cys Ser Met Ile Leu Gln Met Ser Gly Phe
    210   215   220
Ser Phe Leu Gly Leu Gly Val Lys Ala Pro Thr Ala Glu Trp Gly Met
225   230   235   240
Met Leu Asn Glu Ala Arg Lys Val Met Phe Thr His Pro Gly Met Met
            245   250   255
Met Thr Thr Gly Val Ala Ile Val Ile Ile Val Met Ala Phe Asn Phe
        260   265   270
Leu Ser Asp Ala Leu Gln Met Ala Ile Asp Pro Arg Met Ser Ala Lys
        275   280   285
Glu Lys Arg Leu Ala Leu Lys Lys Gly Val Lys Ala Arg Asp Thr Ala
    290   295   300

<210> 4449
<211> 474
<212> PRT
<213> S.epidermidis

<400> 4449
Lys His Cys Leu Ile Ile His Leu Lys Gln Leu Thr Lys His Asn Gly
1   5   10   15
Asp Val Lys Asn Tyr Lys His Asp Arg Ser Arg Phe Leu Ile Leu His
            20   25   30
Phe Ile Val Lys Trp His Gln Lys Leu Val Leu Asn Met Ser Lys Ile
        35   40   45
Leu Met Val Gly Ser Gly Pro Val Ala Ile Gln Leu Ala Arg Leu Cys
        50   55   60
Asn Leu His Gly Glu His Met Val Asp Met Val Ser Arg Val His Ala
65   70   75   80

```
Ser Thr Lys Ser Lys Arg Val Phe Asp Ala Tyr His Arg Asp Gly Phe
                85              90                  95
Phe Ser Val Met Thr Gln Asn Asp Ala His Gln Cys Phe Leu Gly Lys
                100             105             110
Phe Thr Val Arg His Phe Phe Lys Asp Val Lys Asp Ile Thr Gln Tyr
            115             120             125
Tyr Asp Val Val Ile Leu Ala Cys Thr Ala Asp Ala Tyr Arg Pro Ile
    130              •   135             140
Leu Gln Gln Leu Ser Lys Ser Thr Leu Lys Arg Ile Lys Gln Ile Ile
145             150             155                 160
Leu Val Ser Pro Thr Leu Gly Ser His Met Leu Val Lys Gln Ile Leu
                165             170             175
Ser Asp Val His Cys Glu Gly Glu Val Ile Ser Phe Ser Thr Tyr Leu
            180             185             190
Gly Asp Thr Arg Ile Phe Asp Lys Ala Gln Pro His Cys Val Leu Thr
            195             200             205
Thr Arg Val Lys Ser Lys Leu Phe Val Gly Ser Thr His Ser Gln Ser
    210             215             220
Ile Thr Leu Tyr Lys Leu Lys Ser Leu Phe Asp Tyr Leu Asn Ile Glu
225             230             235                 240
Leu Thr Thr Met Asp Thr Pro Leu His Ala Glu Ile His Asn Ser Ser
                245             250             255
Leu Tyr Val His Pro Pro Leu Phe Met Asn Gln Phe Ser Leu Lys Ala
            260             265             270
Val Phe Glu Gly Thr Lys Val Pro Val Tyr Val Tyr Lys Leu Phe Pro
    275             280             285
Glu Gly Pro Ile Thr Met Thr Leu Ile His Glu Met Arg Leu Met Trp
    290             295             300
Gln Glu Met Met Met Ile Leu Lys Lys Leu Lys Val Pro Ser Val Asn
305             310             315                 320
Leu Leu Lys Phe Met Val Lys Glu Asn Tyr Pro Ile Arg Asp Glu Thr
                325             330             335
Met Arg Glu Val Asp Ile Glu Ser Phe Glu Asn Leu Ser Ala Ile His
            340             345             350
Gln Glu Tyr Leu Leu Tyr Val Arg Tyr Thr Ala Ile Leu Ile Asp Pro
    355             360             365
Phe Ser Asn Pro Asp Asp Gln Gly Ala Tyr Phe Asp Phe Ser Ala Val
    370             375             380
Pro Tyr Lys His Val Asp Thr Asp Glu Gln Gly Val Ile His Ile Pro
385             390             395                 400
Arg Met Pro Ser Glu Asp Tyr Tyr Arg Thr Leu Met Ile Gln Ala Ile
            405             410             415
Gly Arg Ala Leu Asn Val Ala Thr Pro Met Ile Asp Thr Leu Leu Leu
            420             425             430
Arg Tyr Glu Thr Thr Val Lys Gln Tyr Cys Asp Thr His Leu His Gln
    435             440             445
Gln Leu Ser Lys Gln Phe Glu Leu His His Phe Lys Gln Asp Leu Ala
    450             455             460
Leu Val Thr Asn Tyr Leu Thr Phe Tyr Lys
465             470
```

<210> 4450
<211> 378
<212> PRT
<213> S.epidermidis

<400> 4450

```
Tyr Lys Tyr Lys Arg Cys Phe Gly Gly Ile Leu Met Ser Lys Phe Ile
1               5                   10                  15
Tyr Gln Ser Pro Gly Arg Tyr Val Gln Gly Lys Gly Ile Val Ser Ser
            20                  25                  30
Ile Ala Glu Glu Thr Glu Arg Leu Gly Ser His Ala Leu Ile Ile Ala
        35                  40                  45
Asp Glu Val Val Trp Asn Ile Thr Glu Glu Lys Ile Lys Glu Ser Phe
    50                  55                  60
Ser Ala Asn Asn Asn Val Asp Phe Glu Tyr Glu Val Phe Lys Gly Glu
65                  70                  75                  80
Ser Ser Glu Glu Glu Ile Gln Arg Ile Val Lys Gln Tyr Lys Glu Lys
                85                  90                  95
Asn Ile Asp Val Val Ile Gly Leu Gly Gly Gly Lys Ala Leu Asp Thr
            100                 105                 110
Gly Lys Ala Val Ala Phe Glu Leu Lys Ala Ser Val Ile Asp Phe Ala
        115                 120                 125
Ser Thr Ala Ser Met Asp Ala Pro Thr Ala Ala Val Ser Val Ile Tyr
    130                 135                 140
Asn Glu Asp Gly Ser Phe Ser Gly Tyr Glu Phe Tyr Pro Lys Asn Pro
145                 150                 155                 160
Asp Thr Val Ile Val Asp Ser Glu Ile Val Ala Gln Ala Pro Val Arg
            165                 170                 175
Leu Phe Ala Ser Gly Met Ser Asp Gly Leu Ala Thr Leu Ile Glu Val
            180                 185                 190
Glu Ser Thr Leu Arg Arg Gln Gly Gln Asn Met Phe His Gly Lys Pro
        195                 200                 205
Thr Leu Ala Ser Leu Ala Ile Ala Gln Lys Cys Glu Glu Val Ile Phe
    210                 215                 220
Glu Tyr Gly Tyr Ser Ala Tyr Thr Ser Val Glu Lys His Ile Val Thr
225                 230                 235                 240
Pro Gln Val Asp Ala Val Ile Glu Ala Asn Thr Leu Leu Ser Gly Leu
            245                 250                 255
Gly Phe Glu Asn Gly Gly Leu Ala Gly Ala His Ala Ile His Asn Gly
            260                 265                 270
Phe Thr Ala Leu Glu Gly Asp Ile His His Leu Thr His Gly Glu Lys
    275                 280                 285
Val Ala Tyr Gly Ile Leu Val Gln Leu Val Leu Glu Asn Ala Pro Thr
    290                 295                 300
Glu Lys Phe Met Lys Tyr Lys Thr Phe Phe Asp Asn Ile Asn Met Pro
305                 310                 315                 320
Thr Thr Leu Glu Gly Leu His Ile Glu Asn Thr Ser Tyr Glu Glu Leu
            325                 330                 335
Val Gln Val Gly Glu Arg Ala Leu Thr Pro Asn Asp Thr Phe Ala Asn
            340                 345                 350
Leu Ser Asp Lys Ile Thr Ala Asp Glu Ile Ala Asp Ala Ile Leu Thr
    355                 360                 365
Val Asn Asp Leu Ser Lys Ser Gln Phe Asn
    370                 375
```

<210> 4451
<211> 55
<212> PRT
<213> S.epidermidis

<400> 4451

```
Gly Arg Asp Asn Leu Met Glu His Val Ser Lys Leu Gly Glu Ala Ile
1               5                   10                  15
Val Asp Thr Val Thr Ala Ala Gln Ala Glu Asp Gly Ala Glu Leu Ala
            20                  25                  30
Lys Ser Ile Val Asn Ile Val Ala Asn Ala Gly Gly Ile Ile Gln Asp
        35                  40                  45
Ile Ala His Ala Phe Gly Tyr
    50                  55
```

<210> 4452
<211> 405
<212> PRT
<213> S.epidermidis

<400> 4452

```
Thr Thr Ile Asn Leu Arg Ser Asp Asn Met Lys Gly Ala Met Ser Trp
1               5                   10                  15
Pro Phe Leu Arg Leu Tyr Ile Leu Thr Leu Met Phe Phe Ser Ala Asn
            20                  25                  30
Ala Ile Leu Asn Val Phe Ile Pro Leu Arg Gly His Asp Leu Gly Ala
        35                  40                  45
Thr Asn Thr Val Ile Gly Ile Val Met Gly Ala Tyr Met Leu Thr Ala
        50                  55                  60
Met Leu Phe Arg Pro Trp Ala Gly Gln Ile Ile Ala Arg Ile Gly Pro
65                  70                  75                  80
Ile Lys Val Leu Arg Ile Ile Leu Leu Ile Asn Ala Met Ala Leu Val
                85                  90                  95
Leu Tyr Gly Phe Thr Gly Leu Glu Gly Tyr Leu Ile Ala Arg Ile Met
            100                 105                 110
Gln Gly Val Cys Thr Ala Phe Phe Ser Met Ser Leu Gln Leu Gly Ile
        115                 120                 125
Ile Asp Ala Leu Pro Glu Lys Tyr Arg Ser Glu Gly Val Ser Leu Tyr
        130                 135                 140
Ser Leu Phe Ser Thr Ile Pro Asn Leu Leu Gly Pro Leu Ile Ala Val
145                 150                 155                 160
Gly Ile Trp His Val Glu Asn Met Ser Ile Phe Ala Ile Val Met Ile
                165                 170                 175
Phe Ile Ala Val Thr Thr Thr Leu Phe Gly Tyr Arg Thr Thr Phe Ala
            180                 185                 190
Asn Thr Gln Lys Glu Val Ser Pro Lys Asp Glu Val Leu Pro Phe Asn
        195                 200                 205
Ala Met Thr Val Tyr Val Gln Phe Phe Lys Asn Lys Ala Leu Phe Cys
        210                 215                 220
Ser Gly Met Ile Met Ile Leu Ser Ser Ile Val Phe Gly Ala Met Ser
225                 230                 235                 240
Thr Phe Ile Pro Leu Tyr Thr Val Arg Glu Gly Phe Ala Asn Ala Gly
            245                 250                 255
Ile Phe Leu Thr Ile Gln Ala Ile Thr Val Val Ile Ala Arg Phe Tyr
            260                 265                 270
Leu Arg Lys Tyr Val Pro Ser Asp Gly Leu Trp His His Arg Phe Met
        275                 280                 285
Met Ile Val Leu Thr Leu Leu Met Val Ala Ser Val Ile Val Ala Phe
        290                 295                 300
Gly Pro His Ile Val Ser Ile Phe Val Tyr Ile Ser Ala Ile Phe Ile
305                 310                 315                 320
Gly Ile Thr Gln Ala Leu Val Tyr Pro Thr Leu Thr Thr Tyr Leu Ser
```

```
                   325                    330                    335
Phe Val Leu Pro Lys Ile Gly Arg Asn Met Leu Leu Gly Leu Phe Ile
               340                    345                    350
Ala Cys Ala Asp Leu Gly Ile Ser Leu Gly Gly Val Leu Met Gly Pro
           355                    360                    365
Ile Ser Asp Thr Val Gly Phe Lys Trp Met Tyr Ile Leu Cys Ala Leu
       370                    375                    380
Leu Val Thr Ile Ala Met Thr Leu Ser Lys Ile Arg Gln Arg Gln Ser
385                    390                    395                    400
Val Ser Lys Ala Ser
               405


<210> 4453
<211> 341
<212> PRT
<213> S.epidermidis


<400> 4453
Phe Ile His Lys Glu Leu Leu Leu Met Lys Asn Leu Arg Asn Arg Ser
1               5                    10                    15
Phe Leu Thr Leu Leu Asp Phe Ser Arg Gln Glu Val Glu Phe Leu Leu
           20                    25                    30
Thr Leu Ser Glu Asp Leu Lys Arg Ala Lys Tyr Ile Gly Thr Glu Lys
       35                    40                    45
Pro Met Leu Lys Asn Lys Asn Ile Ala Leu Leu Phe Glu Lys Asp Ser
       50                    55                    60
Thr Arg Thr Arg Cys Ala Phe Glu Val Ala Ala His Asp Gln Gly Ala
65                    70                    75                    80
His Val Thr Tyr Leu Gly Pro Thr Gly Ser Gln Met Gly Lys Lys Glu
               85                    90                    95
Thr Ala Lys Asp Thr Ala Arg Val Leu Gly Gly Met Tyr Asp Gly Ile
           100                    105                    110
Glu Tyr Arg Gly Phe Ser Gln Arg Thr Val Glu Thr Leu Ala Gln Tyr
       115                    120                    125
Ser Gly Val Pro Val Trp Asn Gly Leu Thr Asp Glu Asp His Pro Thr
       130                    135                    140
Gln Val Leu Ala Asp Phe Leu Thr Ala Lys Glu Val Leu Lys Lys Glu
145                    150                    155                    160
Tyr Ala Asp Ile Asn Phe Thr Tyr Val Gly Asp Gly Arg Asn Asn Val
               165                    170                    175
Ala Asn Ala Leu Met Gln Gly Ala Ala Ile Met Gly Met Asn Phe His
           180                    185                    190
Leu Val Cys Pro Lys Glu Leu Asn Pro Thr Glu Glu Leu Leu Asn Arg
           195                    200                    205
Cys Glu Arg Ile Ala Thr Glu Asn Gly Gly Asn Ile Leu Ile Thr Asp
       210                    215                    220
Asp Ile Asp Lys Gly Val Lys Asp Ser Asp Val Ile Tyr Thr Asp Val
225                    230                    235                    240
Trp Val Ser Met Gly Glu Pro Asp Glu Val Trp Gln Glu Arg Leu Lys
               245                    250                    255
Leu Leu Lys Pro Tyr Gln Val Asn Gln Ala Leu Leu Glu Lys Thr Gly
           260                    265                    270
Asn Pro Asn Val Ile Phe Glu His Cys Leu Pro Ser Phe His Asn Ala
       275                    280                    285
Glu Thr Lys Ile Gly Gln Gln Ile Tyr Glu Lys Tyr Gly Ile Ser Glu
       290                    295                    300
```

```
Met Glu Val Thr Asp Asp Val Phe Glu Ser Lys Ala Ser Val Val Phe
305             310             315             320
Gln Glu Ala Glu Asn Arg Met His Thr Ile Lys Ala Val Met Val Ala
                325             330             335
Thr Leu Gly Glu Phe
            340
```

<210> 4454
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4454
```
Asn Asp Ser Lys Thr Phe Tyr Thr Gln Lys Asn Leu Leu Phe Gln Gln
1               5               10              15
Phe His Asn Ala Cys Ser Ala Gly Leu Lys Asp Val Met Ile Leu Lys
                20              25              30
Tyr Asp Asn Asp Leu Asp Asn Gln Leu Ser
            35              40
```

<210> 4455
<211> 255
<212> PRT
<213> S.epidermidis

<400> 4455
```
Gly Gly Ser Lys Met Leu Lys Gly His Leu His Ser Val Glu Ser Met
1               5               10              15
Gly Thr Val Asp Gly Pro Gly Leu Arg Tyr Ile Leu Phe Thr Gln Gly
                20              25              30
Cys Leu Leu Arg Cys Leu Tyr Cys His Asn Pro Asp Thr Trp Lys Ile
            35              40              45
Asn Glu Pro Ser Arg Glu Val Thr Val Asp Glu Met Val Asn Glu Ile
        50              55              60
Leu Pro Tyr Lys Pro Tyr Phe Glu Ala Ser Gly Gly Gly Val Thr Val
65              70              75              80
Ser Gly Gly Glu Pro Leu Leu Gln Met Pro Phe Leu Glu Gln Leu Phe
                85              90              95
Lys Glu Leu Lys Ala Asn Gly Val His Thr Cys Ile Asp Thr Ser Ala
            100             105             110
Gly Cys Val Asn Asp Thr Pro Ala Phe Asn Arg His Phe Asp Glu Leu
            115             120             125
Gln Lys His Thr Asp Leu Ile Leu Leu Asp Ile Lys His Ile Asp Asn
            130             135             140
Asp Lys His Ile Lys Leu Thr Gly Lys Pro Asn Thr His Ile Leu Lys
145             150             155             160
Phe Ala Arg Lys Leu Ser Asp Met Lys Gln Pro Val Trp Ile Arg His
                165             170             175
Val Leu Val Pro Gly Ile Ser Asp Asp Lys Glu Asp Leu Ile Lys Leu
            180             185             190
Gly Glu Phe Ile Asn Ser Leu Asp Asn Val Glu Lys Phe Glu Ile Leu
            195             200             205
Pro Tyr His Gln Leu Gly Val His Lys Trp Lys Asn Leu Gly Ile Pro
            210             215             220
Tyr Gln Leu Glu Asn Val Glu Pro Pro Asp Asp Glu Ala Val Lys Glu
225             230             235             240
```

Ala Tyr Arg Tyr Val Asn Phe Asn Gly Lys Ile Pro Val Thr Leu
                245   250   255

<210> 4456
<211> 70
<212> PRT
<213> S.epidermidis

<400> 4456
Phe Val Leu Lys Lys Gln Cys Tyr Ser Ile Asp Asn Leu Ile Arg Arg
1   5   10   15
Arg Glu Tyr Asn Val Glu His Val Ser Lys Leu Ala Glu Ala Ile Ala
            20   25   30
Asn Thr Val Ser Ala Ala Gln Ala Glu Asp Gly Ala Glu Leu Ala Lys
            35   40   45
Ser Ile Val Asn Ile Val Ala Asn Ala Gly Gly Ile Ile Gln Asp Ile
        50   55   60
Ala His Ala Phe Gly Tyr
65   70

<210> 4457
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4457
Pro Glu Ile Asn Pro Ser Ile Ala Pro Ile Thr Thr Glu Ile Ile Asn
1   5   10   15
Ala Thr Asn Thr Tyr Asn Lys Leu Gly Leu Met Ala Tyr Ile Ile Arg
            20   25   30
Val Asn Thr Ser Arg Pro Lys Trp Ser Val Pro Asn Gln
        35   40   45

<210> 4458
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4458
Arg Val Val Lys Ile Met Ile Met Ala Ile Pro Ser Thr Asn Val Thr
1   5   10   15
Met Thr Gly Arg Glu Val Ile Pro Asn Val Leu Thr Leu Leu Asn Ala
            20   25   30
Asn Lys Ile Lys Pro Lys Pro Lys Val Glu
            35   40

<210> 4459
<211> 56
<212> PRT
<213> S.epidermidis

<400> 4459
Val Ala Gln Asn Asp Leu Glu Ile Ser Ser Ser Ser Glu Pro Arg Gly
1   5   10   15
Asn Ile Lys Leu Ile Ile Ile Thr Tyr Ile Phe His Ile Lys Tyr Ile
            20   25   30

```
Val Ile Asn Lys Asn Asn Gln Lys Ile Ile Tyr Ile Gly Ile Val Ile
        35              40              45
Arg Leu Ser Tyr Val Asn Leu Tyr
    50              55
```

<210> 4460
<211> 77
<212> PRT
<213> S.epidermidis

<400> 4460
```
Ile His Lys Asn Thr Glu Thr Phe Asp Asp Val Ser Asp Ile Tyr His
1               5               10              15
Ile Ser Leu Val Asp Leu Ser Thr Cys Leu Phe Lys Ser Gln Leu Thr
        20              25              30
Ser Val Ile Ile Tyr Thr Thr Leu Phe Asn Asn Lys Thr Leu Phe Val
        35              40              45
Lys Leu Asn Pro His Val Val Ile Tyr Asp Val Gln Leu Tyr Leu Tyr
    50              55              60
Asp Ile Lys Pro Glu Asn Phe Ser Thr Thr Val Met Pro
65              70              75
```

<210> 4461
<211> 454
<212> PRT
<213> S.epidermidis

<400> 4461
```
Leu Met Met Lys Asn Lys Leu Thr Leu Lys Glu Asn Leu Phe Ile Gly
1               5               10              15
Ser Met Leu Phe Gly Leu Phe Phe Gly Ala Gly Asn Leu Ile Phe Pro
        20              25              30
Ile His Leu Gly Gln Thr Ala Gly Ser Asn Val Trp Thr Ala Asn Leu
        35              40              45
Gly Phe Leu Ile Thr Ala Ile Gly Leu Pro Phe Leu Gly Ile Ile Ala
    50              55              60
Ile Gly Val Ser Lys Thr Asn Gly Val Phe Glu Ile Ser Ser Arg Ile
65              70              75              80
Ser Lys Ile Tyr Gly Tyr Leu Phe Thr Ile Gly Leu Tyr Leu Val Ile
            85              90              95
Gly Pro Phe Phe Ala Leu Pro Arg Leu Ala Thr Thr Ser Phe Glu Ile
        100             105             110
Ala Phe Ser Pro Phe Ile Ser Ser Gly Thr Ala Gln Ala Leu Leu Pro
        115             120             125
Ile Phe Ser Ile Leu Phe Phe Gly Val Ala Trp Leu Phe Ser Arg Lys
        130             135             140
Pro Ser Lys Ile Leu Asp Tyr Ile Gly Lys Phe Leu Asn Pro Val Phe
145             150             155             160
Leu Ile Leu Leu Gly Ile Val Val Val Leu Ala Phe Ile Arg Pro Met
            165             170             175
Gly Gly Ile Ser His Ala Pro Val Ser Ala Asp Tyr Ser Asn Ser Val
            180             185             190
Leu Leu Lys Gly Phe Ile Asp Gly Tyr Asn Thr Leu Asp Ala Leu Ala
        195             200             205
Ser Leu Ala Phe Gly Ile Ile Ile Val Thr Thr Ile Lys Lys Leu Gly
    210             215             220
```

```
Ile Thr Asn Pro Asn Thr Ile Ala Lys Glu Thr Leu Lys Ser Gly Thr
225                 230                 235                 240
Ile Ser Ile Ile Ala Met Gly Val Ile Tyr Thr Leu Leu Ala Leu Met
                245                 250                 255
Gly Thr Met Ser Leu Gly Arg Phe Lys Val Ser Glu Asn Gly Gly Ile
                260                 265                 270
Ala Leu Ala Gln Ile Ala Gln His Tyr Leu Gly Asp Tyr Gly Ile Ile
                275                 280                 285
Ile Leu Ser Leu Ile Ile Ile Val Ala Cys Leu Lys Thr Ala Ile Gly
                290                 295                 300
Leu Ile Thr Ala Phe Ser Glu Thr Phe Thr Glu Leu Phe Pro Lys Ser
305                 310                 315                 320
Asn Tyr Leu Trp Leu Ala Thr Gly Val Ser Ile Leu Ala Cys Ile Phe
                325                 330                 335
Ala Asn Val Gly Leu Thr Lys Ile Ile Met Tyr Ser Thr Pro Val Leu
                340                 345                 350
Met Phe Ile Tyr Pro Leu Ala Ile Thr Leu Ile Leu Leu Ala Leu Leu
                355                 360                 365
Ser Pro Leu Phe Lys His Ser Lys Ile Val Tyr Arg Phe Thr Thr Leu
                370                 375                 380
Phe Thr Met Val Ala Ala Phe Val Asp Gly Val Lys Ala Ser Pro Glu
385                 390                 395                 400
Phe Phe Val Asn Thr Lys Phe Ala Gln Thr Ile Ile Gly Phe Gly Glu
                405                 410                 415
Asn Tyr Leu Pro Phe Phe Asn Ile Gly Met Gly Trp Ile Val Pro Ala
                420                 425                 430
Phe Ile Gly Phe Ile Ile Gly Ile Ile Val Tyr Phe Met Thr Ala Lys
                435                 440                 445
Lys Ser Ser His Val Gln
    450

<210> 4462
<211> 150
<212> PRT
<213> S.epidermidis

<400> 4462
Asn Lys Val Lys Gln Ser Tyr Tyr Ser His Thr Pro Gln Ser Lys Ile
1               5                   10                  15
Lys Ser Val Ala Ile Asn Lys His Ala His Gln Ser Ile Ser Ile Gly
                20                  25                  30
Ile Val Phe Val Val Val Ile Phe Val Ser Val Ile Gln Ile Leu Leu
                35                  40                  45
His Gln Arg Leu Lys Gln Asn Ala Pro Leu Glu Arg Leu Tyr Leu Val
                50                  55                  60
Pro Tyr Ser Gln Leu Lys Leu Tyr Leu Thr Tyr Ile Ser Val His Val
65                  70                  75                  80
Val Ile Leu Met Leu Met Leu Leu Met Ile Ser Leu Leu Met His Gln
                85                  90                  95
Pro Leu Ser Ile Leu Phe Tyr Leu Lys Thr Leu Ile Ile Val Leu Phe
                100                 105                 110
Tyr Glu Ala Gly Ile Ala Leu Leu Leu Phe Lys Ile Asn Val Leu Ser
                115                 120                 125
His Arg Ile Phe Met Ala Ile Ile Tyr Thr Val Ala Ile Gly Ile Ile
                130                 135                 140
Tyr Leu Trp Ile Gln Leu
```

145   150

```
<210> 4463
<211> 74
<212> PRT
<213> S.epidermidis

<400> 4463
Glu Arg Pro Asn Tyr Gly Met Asn Leu Gly His Lys Ser Met Phe Gln
1                   5                   10                  15
Val Phe Tyr Asn Val Lys Thr Val Met Asn Phe Trp Ala Leu Thr Glu
            20                  25                  30
Cys Ile Ser Ile Asp Lys Ala Ile Trp Leu Ser Thr Ile Lys Glu Trp
        35                  40                  45
His Asn Glu Gly Ile Met Asn Ile Cys Leu Ile Leu Gln Leu Phe Ser
    50                  55                  60
Arg Lys Ser Asn Gly Leu Met Val Val Lys
65                  70
```

```
<210> 4464
<211> 175
<212> PRT
<213> S.epidermidis

<400> 4464
Glu Met Arg Lys Cys Val Leu Met Thr Val Ala Ala Ser Ala Thr Leu
1                   5                   10                  15
Leu Leu Ala Gly Cys Gly Asn Gly Gln Lys Glu Asp Lys Asp Val Thr
            20                  25                  30
Val Ser Leu Pro Thr Glu Ala Lys Ala Asp Lys Leu Asp Ala Gln Gly
        35                  40                  45
Tyr Asp Ala Ala Met Pro Val Tyr Ser Ala Val Tyr Asp Ala Leu Val
    50                  55                  60
Lys Tyr Asp Lys Asp Lys Gly Ile Lys Ala Gly Leu Ala Asp Lys Trp
65                  70                  75                  80
Ser Val Asp Glu Ser Gly Lys Val Tyr Glu Phe His Leu Lys Lys Asn
                85                  90                  95
Val Lys Phe Ser Asp Gly Ser Ala Leu Asp Ala Lys Asp Val Lys Phe
            100                 105                 110
Ser Ile Asp Arg Ala Lys Ala Met Asn Lys Asp Ser Thr Val Glu Thr
        115                 120                 125
Leu Lys Lys Leu Asp Lys Val Val Val Lys Asn Glu His Val Val Gln
    130                 135                 140
Ile Arg Leu Lys Ser Pro Ser Asn Gln Val Leu Asn Glu Leu Thr Gln
145                 150                 155                 160
Val Arg Pro Leu Arg Ile Met Ser Pro His Ser Val Glu Gly Cys
                165                 170                 175
```

```
<210> 4465
<211> 263
<212> PRT
<213> S.epidermidis

<400> 4465
Ile Arg Arg Lys Ile Asp Met Ser Lys Thr Ala Ile Ile Thr Gly Ala
1                   5                   10                  15
```

Ala Gly Gly Leu Gly Lys Gly Ile Ala Glu Arg Leu Ala Asn Asp Gly
          20   25   30

Phe Asn Ile Val Leu Gln Asp Ile Asn Glu Ala Leu Leu Leu Glu Thr
          35   40   45

Glu Lys Glu Phe Lys Glu Lys Gly Tyr Gln Ala Val Ala Phe Lys Ser
       50   55   60

Asp Val Ser Lys Lys Lys Glu Gln Glu Glu Leu Val Gln Phe Ala Val
65   70   75   80

Thr Glu Phe Gly Gln Leu Asp Val Met Val Asn Asn Ala Gly Val Asp
          85   90   95

Ala Val Thr Pro Ile Leu Glu Ile Gly Glu Glu Glu Leu Ser Lys Leu
          100   105   110

Phe Asn Ile Asn Val Phe Gly Thr Leu Phe Gly Ile Gln Ala Ala Ala
          115   120   125

Asn Gln Phe Ile Lys Gln Lys Ser Lys Gly Lys Ile Ile Asn Ala Cys
       130   135   140

Ser Ile Ala Gly His Glu Ser Tyr Glu Val Leu Gly Thr Tyr Ser Ala
145   150   155   160

Thr Lys His Ser Val Arg Ser Phe Thr Gln Thr Ala Ala Lys Glu Leu
          165   170   175

Ala Asp Lys Gly Ile Thr Val Asn Ala Tyr Cys Pro Gly Val Ala Lys
          180   185   190

Thr Glu Met Trp Asp Arg Ile Asp Glu Glu Met Val Lys Leu Asp Asp
          195   200   205

Ser Leu Glu Ile Gly Asp Ala Phe Glu Ala Phe Ser Ser Glu Ile Lys
          210   215   220

Leu Gly Arg Tyr Gln Glu Pro Ser Asp Val Ala Asn Leu Val Ser Phe
225   230   235   240

Leu Ala Ser Asn Asp Ser Asp Tyr Ile Thr Gly Gln Ser Ile Leu Thr
          245   250   255

Asp Gly Gly Leu Val Tyr Arg
          260

<210> 4466
<211> 445
<212> PRT
<213> S.epidermidis

<400> 4466
Cys Lys Ile Glu Leu Arg Leu Ile Tyr Met Arg Leu Ile Thr Phe Phe
1   5   10   15

Lys Asp Leu Lys Ser Ile Ile Cys Phe Asn Arg Glu Arg Arg Met Asn
          20   25   30

Val Lys Gln Leu Ser Thr Thr Leu Lys Val Arg Leu Ile Cys Asp Phe
          35   40   45

Phe Gln Asn Ile Ile Val Thr Ala Phe Leu Pro Phe Ile Ala Leu Tyr
          50   55   60

Leu Thr Asp Met Val Asn Gln His Phe Ser Gly Leu Phe Leu Phe Gly
65   70   75   80

Leu Val Met Ile Asn Phe Pro Ile Ser Leu Ile Ser Gly His Ile Ile
          85   90   95

Glu Arg Leu Pro Lys Lys Thr Leu Thr Leu Ser Tyr Gln Phe Ile Leu
          100   105   110

Ser Leu Met Leu Val Ile Met Ala Ile Ser Ile Ser Gln His Thr Phe
          115   120   125

Lys Ile Ile Leu Phe Cys Ile Ala Tyr Thr Ile Phe Ser Ile Thr Ile

```
            130                    135                    140
Gly Met Gln Gln Pro Ile Met Asp Thr Ile Ile Met Asp Ala Ile Thr
145                    150                    155                    160
Pro Glu Val Glu Gln Tyr Ile Tyr Lys Ile Ser Tyr Trp Leu Thr Asn
                   165                    170                    175
Ile Ala Val Ala Phe Gly Ala Leu Ile Gly Gly Leu Met Tyr Gly Ala
                   180                    185                    190
His Lys Ser Met Leu Phe Phe Ile Ala Phe Val Ile Tyr Ile Met Val
                   195                    200                    205
Phe Ile Ala Leu Ile Val Trp Leu Pro Lys Asp Leu Asn Ile Val Thr
                   210                    215                    220
Gln Ser His Thr His His Ala Asn Glu Lys Gln Phe Ser Met Gly Gln
225                    230                    235                    240
Ile Leu Lys Ser Tyr Lys Pro Ala Phe Lys Asp Thr Thr Tyr Leu Leu
                   245                    250                    255
Leu Ile Ile Gly Phe Ser Ile Leu Thr Met Gly Glu Leu Ser Ala Ser
                   260                    265                    270
Ser Tyr Ile Ser Val Arg Leu Lys Gln Glu Phe Asp Pro Met Ile Leu
                   275                    280                    285
Phe Ser Leu His Ile Asn Gly Val Lys Met Tyr Ser Leu Leu Leu Met
                   290                    295                    300
Thr Asn Thr Ile Ile Val Ile Ile Phe Thr Tyr Phe Ile Ser Lys Ile
305                    310                    315                    320
Val Met Arg Met Asn Val Lys Thr Ala Leu Leu Val Gly Ile Ile Phe
                   325                    330                    335
Tyr Val Ile Gly Tyr Ser Asn Leu Thr Tyr Leu Asn Asp Phe Thr Leu
                   340                    345                    350
Leu Ile Ile Phe Met Ile Ile Ala Thr Ile Gly Glu Met Val Tyr Ser
                   355                    360                    365
Pro Ile Leu Glu Glu Asn Arg Phe Lys Met Val Pro Ser His Lys Arg
                   370                    375                    380
Gly Thr Tyr Ser Ala Val His Ala Leu Gly Phe Asn Leu Ala Glu Leu
385                    390                    395                    400
Leu Ala Arg Phe Gly Ile Ile Leu Gly Val Phe Leu Thr Ser Met Glu
                   405                    410                    415
Met Gly Ile Tyr Met Phe Val Leu Leu Leu Leu Gly Gly Met Ser Leu
                   420                    425                    430
Tyr Ile Ala Val Ser Arg Phe Asn Asn Thr Asn Ser Gln
            435                    440                    445
```

<210> 4467
<211> 52
<212> PRT
<213> S.epidermidis

<400> 4467
```
Val Gln Ser Asp Asp Leu Asn Ala Ile Tyr Met Leu Lys Asp Ser His
1                   5                    10                    15
Ile Asp Leu Ile Asp Asp Met Ser Ser Ile Val Val His Ile Ala Thr
                   20                    25                    30
Gln Tyr Tyr Arg Asp Val Gly Ala Leu Asp Val Arg Ile Phe Gln Pro
            35                    40                    45
Arg Phe Tyr Lys
            50
```

<210> 4468

<211> 80
<212> PRT
<213> S.epidermidis

<400> 4468
Lys Thr Thr Asp Asn Asn Asp Phe His Asn Ile Thr Pro Lys Ser Glu
1   5   10   15
Ile Leu Val Met Leu Asn Ile Ala Met Thr Ser Met Val Thr Gln Ile
            20   25   30
Val Asp Asp Thr Ile Cys Phe Ile Ile Ile Leu Ile Pro Arg Ile Glu
        35   40   45
Pro Ser Arg Arg Met Ser Ile Val Ile Val Thr Glu His Ala Val Asn
    50   55   60
Val Glu Leu Lys Lys Thr Ser Asn Asn Asn Trp Asn Ala Glu Ser Leu
65   70   75   80

<210> 4469
<211> 175
<212> PRT
<213> S.epidermidis

<400> 4469
Pro Gln Leu Asp Asp Thr Thr Pro Phe Lys Lys Gly Val Gly Ile Asp
1   5   10   15
Leu Ala Arg Leu Ser Leu Glu Lys Ala Glu Thr Leu Lys Gly Gln Arg
            20   25   30
Pro Leu Thr Tyr Tyr Leu Thr Asp Lys Pro Gln Glu Thr Lys His Val
            35   40   45
Phe Asp Thr Ala Val Ser Thr Ser Val Leu Tyr Leu Ile Glu Asp Ile
            50   55   60
Pro Gln His Ala Lys Asp Leu Lys Glu Val Leu Lys Pro Gly Gly Val
65   70   75   80
Tyr Tyr Ala Ser Phe Ala Asp Leu Thr Asn Asn Pro Ser Arg Gln Phe
                85   90   95
Met Asp Asp Thr Ile Asn Gln Tyr Gly Ala Thr Pro Ser Gln Asn His
            100   105   110
Ser Leu Lys His Ile Val Asp Ser Phe Val Asp Ala Gly Phe Glu Val
        115   120   125
Ala Val Met Lys Glu His Val Pro Asp Val Ile Asp Leu Thr His Tyr
    130   135   140
Ser Asp Phe Tyr Leu Ser Pro Asn Asp Tyr Leu Gln Thr Leu Tyr Glu
145   150   155   160
Glu Ser Phe Leu Ile Lys Ala Ser Val Lys Glu Gly Thr Glu Lys
                165   170   175

<210> 4470
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4470
Leu Ser Ile Asp Thr Lys Ala Leu Met Ser Ile Thr Val Thr Ile Ala
1   5   10   15
Leu Arg Leu Glu Val Val Ile Glu Met Leu Asp Ile Glu Trp Tyr Ser
            20   25   30
Phe Gln Asn Glu Val Ala Asp Thr Lys Leu Lys Ile Val Trp Lys Thr

```
        35                    40                      45
Ile Thr Glu Thr Ser Trp
    50


<210> 4471
<211> 58
<212> PRT
<213> S.epidermidis


<400> 4471
Val Lys Val Asp Val Leu His His Leu Gly Asn His Lys Lys Met Leu
1               5                   10                  15
Asn Gln Lys Leu Gly Thr Leu Gln Val Ile His Cys Asn Val Pro Ser
            20                  25                  30
Ser Ile Tyr Lys Asp Leu Val Leu Phe Phe Arg Ile Phe Ser Ser Tyr
            35                  40                  45
Phe Arg Asp Asn Thr Ile His Thr His Ile
    50                  55


<210> 4472
<211> 48
<212> PRT
<213> S.epidermidis


<400> 4472
Arg Phe Pro Asp Lys Cys Ser Ser Leu Lys Val Lys Ala Gly Asp Val
1               5                   10                  15
Ser Leu Ala Ile Ala Phe Ile Phe Gly Met Pro Lys Pro Leu Val Val
            20                  25                  30
Asn Asp Gly Val Met Val Phe Val Asp Arg Gly Gln Cys Leu Asn Glu
            35                  40                  45


<210> 4473
<211> 692
<212> PRT
<213> S.epidermidis


<400> 4473
Tyr Lys Lys Asp Arg Gly Ala Leu Asn Met Lys Asn Lys Lys Asn Ser
1               5                   10                  15
Tyr Ser Ile Arg Lys Leu Ser Val Gly Ala Ser Ser Ile Ile Val Ala
            20                  25                  30
Ser Met Leu Phe Ile Gly Gly Gly Ser Val His Ala Ala Glu Ser Asn
            35                  40                  45
His Leu Glu Asn Gln Glu Gln Ser Glu Val Ser Ala Ser His Ser Ile
    50                  55                  60
Glu Met Gln His Lys Asn Gln Glu Thr Gln Gln Thr Glu Asn Lys Asp
65                  70                  75                  80
Asn Lys Thr Asn His Ser Glu Thr Ile Asp Lys Thr Pro Thr Ile His
                85                  90                  95
Asn Asn Gly Tyr Ser Tyr His Glu Thr Pro Ser Thr Asp Val Lys Ser
            100                 105                 110
Asn Glu Asp Lys Gln Ile Asp Ser Gln Phe Asn Gln Pro Gln Thr Ser
            115                 120                 125
Met Pro Asn Asn Asp Gln Gln Asn Pro Lys Lys Val Ala Glu His Thr
    130                 135                 140
```

```
Thr Lys Ser Ile Asn Ala Lys Lys Glu Glu Thr Arg Lys Asn Glu Asn
145             150             155             160
Ala Lys Ser Leu Val Gln Pro Gln Gln Asp Asp Lys Thr Thr Ser Glu
            165             170             175
Gln Thr Lys Met Lys Glu Ser Arg Glu Gln Glu Ile Thr Asn Glu Gln
            180             185             190
Lys Gln Leu Gln Ser Lys Asp Val Lys Asn Ala Gln Gln Glu Asn Gln
            195             200             205
Asn Ile Asp Gln Glu Lys Ser Gln Glu Lys Ile Lys Val Gln Gln Ser
    210             215             220
Asn Ile Glu Lys Ala Gln Lys Ser Ser Arg Ile Asp Gly Lys Leu Asp
225             230             235             240
Asn Gln Tyr Asn Lys Asp Ala Thr Gln Ser Asp Glu Gly Thr Ala Ser
            245             250             255
Glu Asn Val Ser Glu Gln His Ile Thr Ala Lys Asp Gly Gly Val Thr
            260             265             270
Arg Asn Asn Arg Gly Asp Lys His Leu Asn Gln Glu Lys Pro Thr Thr
            275             280             285
Ser Ser Asp Lys Glu Leu Lys Val Asp Asp Ile Asp Lys Asp Leu Ser
    290             295             300
Thr Lys Glu Ser Pro Glu Asn Glu Lys Asp Asp Ser Arg Lys Gly Ile
305             310             315             320
Lys Ala Ile Thr Lys Asn Ser Gln Ala Thr Thr Arg Asn Thr Ala Thr
            325             330             335
Thr Glu Ala Ser Lys Glu Leu Lys Asp Gln Thr Asn Lys Val Ala Ser
            340             345             350
Gln Lys Glu Tyr Lys Asn His Asp Pro Ile Ile Leu Val His Gly Phe
            355             360             365
Asn Gly Tyr Ala Ser Gly Thr Gly Pro Val Thr Gly Lys Gly Asn Tyr
    370             375             380
Trp Gly Gly Asp Arg Leu Lys Ile Ile Gln Asp Tyr Arg Ala Lys Gly
385             390             395             400
Tyr Asn Val Met Glu Ala Ser Val Ser Ala Phe Gly Ser Asn Tyr Asp
            405             410             415
Arg Ala Val Glu Leu Tyr Tyr Tyr Ile Lys Gly Gly Arg Val Asp Tyr
            420             425             430
Gly Ala Ala His Ala Ala Lys Tyr Gly His Glu Arg Tyr Gly Lys Thr
    435             440             445
Tyr Ala Gly Ala Tyr Lys Asp Trp Lys Pro Gly Gln Lys Ile His Leu
    450             455             460
Ile Gly His Ser Met Gly Gly Gln Thr Ile Arg Tyr Leu Glu Glu Leu
465             470             475             480
Leu Arg His Gly Ser Pro Glu Glu Val Glu Tyr Gln Lys Gln His Gly
            485             490             495
Gly Asp Ile Ser Pro Leu Tyr Lys Gly Gly Gln Asp Asn Met Ile Ser
            500             505             510
Ser Ile Thr Thr Ile Ala Thr Pro His Asn Gly Thr His Ala Ala Asp
            515             520             525
Leu Leu Gly Asn Glu Glu Ile Ile Arg Gln Val Ala Tyr Asp Tyr Ala
    530             535             540
Arg Ser Lys Gly Asn Lys Leu Ser His Val Asp Val Gly Leu Ser Gln
545             550             555             560
Trp Gly Leu Lys Gln Arg Glu Asp Glu Thr Leu Val Gln Tyr Ile Gln
            565             570             575
Arg Val Lys Gln Ser Lys Leu Trp Thr Thr Lys Asp Asn Gly Phe Tyr
            580             585             590
```

```
Asp Leu Thr Thr Glu Gly Thr Asp Ile Leu Asn Gln Lys Thr Ser Leu
        595               600               605
Asn Pro Asn Ile Val Tyr Lys Thr Tyr Gln Gly Glu Ser Thr Arg Pro
        610               615               620
Gly Pro Asn Gly Thr Gln Lys Ala Asp Val Asn Met Asn Ile Gly Tyr
625               630               635               640
Thr Leu Thr Ala Asn Thr Ile Gly Lys Val Lys Asp Lys Ala Trp Arg
                645               650               655
Glu Asn Asp Gly Leu Val Ser Val Ile Ser Gly Gln Tyr Pro Leu Asn
                660               665               670
Gln Ala His Thr Phe Ala Thr Asp Lys Val Gln Lys Gly Val Trp Thr
                675               680               685
Gly Thr Pro Val
        690
```

<210> 4474
<211> 327
<212> PRT
<213> S.epidermidis

<400> 4474
```
Ile Met Lys Glu Asn Phe Trp Ser Thr Leu Pro Arg Pro Phe Phe Ile
1                 5                 10                15
Leu Ala Pro Met Glu Asp Val Thr Asp Ile Val Phe Arg His Val Val
                20                25                30
Ser Glu Ala Ala Arg Pro Asp Val Phe Phe Thr Glu Phe Thr Asn Thr
        35                40                45
Glu Ser Tyr Cys His Pro Glu Gly Ile His Ser Val Arg Gly Arg Leu
        50                55                60
Thr Phe Ser Asp Asp Glu Gln Pro Met Val Ala His Ile Trp Gly Asp
65                70                75                80
Lys Pro Glu Gln Phe Arg Glu Met Ser Ile Gly Leu Ala Asp Met Gly
                85                90                95
Phe Lys Gly Ile Asp Leu Asn Met Gly Cys Pro Val Ala Asn Val Ala
                100               105               110
Lys Lys Gly Lys Gly Ser Gly Leu Ile Leu Arg Pro Glu Thr Ala Ala
        115               120               125
Glu Ile Ile Gln Ala Ser Lys Ala Gly Gly Leu Pro Val Ser Val Lys
        130               135               140
Thr Arg Leu Gly Tyr Tyr Asp Ile Asp Glu Trp Arg Asp Trp Leu Lys
145               150               155               160
His Val Phe Glu Gln Asp Ile Ala Asn Leu Ser Ile His Leu Arg Thr
                165               170               175
Arg Lys Glu Met Ser Lys Val Asp Ala His Trp Glu Leu Ile Glu Ala
                180               185               190
Ile Lys Thr Leu Arg Asp Glu Ile Ala Pro Asn Thr Leu Leu Thr Ile
        195               200               205
Asn Gly Asp Ile Pro Asp Arg Gln Thr Gly Leu Glu Leu Ala Asn Lys
        210               215               220
Tyr Gly Ile Asp Gly Ile Met Ile Gly Arg Gly Ile Phe His Asn Pro
225               230               235               240
Phe Ala Phe Glu Lys Glu Pro Arg Glu His Ser Ser Lys Glu Leu Leu
                245               250               255
Gly Leu Leu Arg Leu His Leu Ser Leu Phe Glu Lys Tyr Asp Lys Asp
        260               265               270
Glu Ala Arg His Phe Lys Ser Leu Arg Arg Phe Phe Lys Ile Tyr Val
```

```
        275                   280                   285
Arg Gly Ile Arg Gly Ala Ser Glu Leu Arg His Gln Leu Met Asn Thr
    290                   295                   300
Gln Ser Ile Ala Glu Ala Arg Glu Leu Leu Asp Thr Phe Glu Ala Arg
305                   310                   315                   320
Met Asp Ala Arg Ser Glu Val
                  325
```

<210> 4475'
<211> 170
<212> PRT
<213> S.epidermidis

<400> 4475
```
Gln Thr Met Glu Asp Ile Met Ile Leu Thr Ile Leu Phe Ile Phe Phe
1               5                   10                  15
Cys Ile Arg Leu Ile Ser Leu Lys Ile Ser Met Gln His Ala Lys Gln
              20                  25                  30
Leu Lys Val Glu Gly Ala Val Glu Tyr Gly Val Lys Asn Ser Lys Tyr
          35                  40                  45
Leu Ala Ile Thr His Val Leu Ile Tyr Met Ser Ala Ala Ile Glu Thr
      50                  55                  60
Phe Ile His Lys Asp Thr Phe Asn Leu Leu Asn Gly Ile Gly Leu Ile
65                  70                  75                  80
Ile Leu Ile Val Ala Tyr Ile Met Leu Phe Ile Val Ile Lys Thr Leu
              85                  90                  95
Gly Arg Ile Trp Thr Leu Lys Leu Phe Ile Leu Pro Asn His Pro Ile
          100                 105                 110
Ile Lys Ser Gly Leu Tyr Lys Val Thr Lys His Pro Asn Tyr Phe Leu
          115                 120                 125
Asn Ile Ile Pro Glu Leu Ile Gly Val Leu Leu Leu Thr Asn Ala Thr
      130                 135                 140
Tyr Thr Thr Leu Leu Leu Val Pro Tyr Ala Tyr Phe Leu Ile Val Arg
145                 150                 155                 160
Ile Arg Gln Glu Glu Lys Leu Met Asn Ile
              165                 170
```

<210> 4476
<211> 325
<212> PRT
<213> S.epidermidis

<400> 4476
```
Ser Leu Lys Glu Asp Asn Met Lys Asn Tyr Lys Lys Tyr Leu Ile Val
1               5                   10                  15
Leu Val Leu Cys Leu Thr Val Leu Ser Gly Cys Asn Leu Pro Gly Leu
              20                  25                  30
Lys Asn Ser His Ser Asp Asp Asp Val Arg Ile Thr Ser Leu Gly Thr
          35                  40                  45
Ser Glu Ser Gln Ile Ile Ser His Met Leu Arg Leu Leu Ile Glu His
      50                  55                  60
Asp Thr Lys Gly Glu Ile Lys Pro Thr Leu Ile Asn Asn Leu Gly Ser
65                  70                  75                  80
Ser Thr Ile Gln His Asn Ala Val Thr Ser Gly Gln Ala Asn Met Ser
              85                  90                  95
Gly Thr Arg Tyr Thr Gly Thr Asp Leu Thr Gly Ala Leu Lys Glu Asp
```

```
                    100                        105                        110
Pro Ile Lys Asp Pro Lys Lys Ala Met Lys Ala Thr Gln Glu Gly Phe
            115                        120                        125
Lys Lys Lys Tyr Asn Gln Thr Phe Phe Asn Ser Tyr Gly Phe Glu Asn
            130                        135                        140
Thr Tyr Ala Leu Ile Val Thr Lys Glu Thr Ala Lys Lys Tyr His Leu
145                        150                        155                        160
Glu Thr Val Ser Asp Leu Glu Lys His Ala Lys Asp Leu Arg Val Gly
                    165                        170                        175
Met Asp Ser Ser Trp Met Asp Arg Lys Gly Asp Gly Tyr Pro Ala Phe
                    180                        185                        190
Lys Lys Glu Tyr Gly Tyr Ser Phe Gly Thr Val Arg Pro Met Gln Ile
            195                        200                        205
Gly Leu Val Tyr Asp Ala Leu Ser Ser Gly Lys Leu Asp Val Ala Val
            210                        215                        220
Gly Tyr Ser Thr Asp Gly Arg Ile Ser Ala Tyr Asp Leu Lys Val Leu
225                        230                        235                        240
Glu Asp Asp Arg Arg Phe Phe Pro Pro Tyr Asp Ala Ser Pro Leu Ala
                    245                        250                        255
Ser Asp Gln Leu Leu Lys Glu Lys Pro Glu Leu Lys Pro Ile Val Lys
            260                        265                        270
Lys Leu Glu Gly Lys Ile Ser Thr Glu Gln Met Gln Glu Leu Asn Tyr
            275                        280                        285
Gln Ala Asp Gly Lys Gly Lys Glu Pro Ala Thr Val Ala Glu Asp Phe
            290                        295                        300
Leu Lys Lys His His Tyr Phe Glu Asp Asp Asp Asn Lys Lys Asp Lys
305                        310                        315                        320
Gln Lys Gly Gly Gln
                    325
```

<210> 4477
<211> 525
<212> PRT
<213> S.epidermidis

<400> 4477
```
Leu Ser Lys Glu Met Lys Pro Leu Glu Gln Ala Ile Asn Asp Asn Lys
1                   5                          10                         15
Lys Lys Lys Arg Phe Asn Phe Arg Met Pro Gly Ala Phe Met Ile Leu
            20                         25                         30
Phe Ile Leu Thr Val Val Ala Val Ile Ala Thr Trp Ile Ile Pro Ala
            35                         40                         45
Gly Ala Tyr Ser Lys Leu Ser Tyr Glu Pro Ser Ser Gln Glu Leu Lys
            50                         55                         60
Ile Val Asn Pro His His Gln Val Lys Lys Val Pro Gly Thr Gln Lys
65                         70                         75                         80
Glu Leu Asp Arg Leu Gly Val Lys Ile Lys Ile Glu Gln Phe Lys Ser
                    85                         90                         95
Gly Ala Ile Asn Lys Pro Val Ser Ile Pro Asn Thr Tyr Glu Arg Leu
            100                        105                        110
Lys Gln His Pro Ala Gly Leu Asp Gln Ile Thr Ser Ser Met Val Lys
            115                        120                        125
Gly Thr Ile Glu Ala Val Asp Ile Met Val Phe Ile Leu Val Leu Gly
            130                        135                        140
Gly Leu Ile Gly Val Val Gln Ala Ser Gly Ser Phe Glu Ser Gly Leu
145                        150                        155                        160
```

Leu Ala Leu Thr Gln Lys Thr Lys Gly His Glu Phe Met Leu Ile Ala
                165   170   175
Phe Val Ser Ile Leu Met Ile Ile Gly Gly Thr Leu Cys Gly Ile Glu
                180   185   190
Glu Glu Ala Val Ala Phe Tyr Pro Val Leu Val Pro Ile Phe Ile Ala
                195   200   205
Leu Gly Tyr Asp Ser Ile Val Ser Val Gly Ala Ile Phe Leu Ala Ser
210   215   220
Ser Val Gly Ser Thr Phe Ser Thr Ile Asn Pro Phe Ser Val Val Ile
225   230   235   240
Ala Ser Asn Ala Ala Gly Thr Thr Phe Thr Asp Gly Leu Tyr Trp Arg
                245   250   255
Ile Gly Ala Cys Ile Ile Gly Ala Ile Phe Val Ile Ser Tyr Leu Phe
                260   265   270
Trp Tyr Cys Lys Lys Ile Lys Lys Asp Pro Lys Ser Ser Tyr Ser Tyr
                275   280   285
Glu Asp Lys Ala Ala Phe Glu Lys Gln Trp Ser Val Leu His Asp Asp
                290   295   300
Gly Ser Ser Glu Phe Thr Leu Arg Lys Lys Ile Ile Leu Thr Leu Phe
305   310   315   320
Val Leu Pro Phe Pro Ile Met Val Trp Gly Val Met Thr Gln Gly Trp
                325   330   335
Trp Phe Pro Val Met Ala Ser Ala Phe Leu Ile Phe Thr Ile Val Ile
                340   345   350
Met Phe Ile Ala Gly Thr Gly Gln Tyr Gly Leu Gly Glu Lys Gly Thr
                355   360   365
Val Asp Ala Phe Val Asn Gly Ala Ser Ser Leu Val Gly Val Ser Leu
370   375   380
Ile Ile Gly Leu Ala Arg Gly Ile Asn Leu Val Leu Asn Lys Gly Met
385   390   395   400
Ile Ser Asp Thr Ile Leu His Phe Ser Ser Ser Ile Val Gln His Met
                405   410   415
Ser Gly Pro Leu Phe Ile Ile Val Leu Leu Phe Ile Phe Phe Cys Leu
                420   425   430
Gly Phe Ile Val Pro Ser Ser Ser Gly Leu Ala Val Leu Ser Met Pro
                435   440   445
Ile Phe Ala Pro Leu Ala Asp Thr Val Gly Ile Pro Arg Phe Val Ile
                450   455   460
Val Thr Thr Tyr Gln Phe Gly Gln Tyr Ala Met Leu Phe Leu Ala Pro
465   470   475   480
Thr Gly Leu Val Met Ala Thr Leu Gln Met Leu Asn Met Arg Tyr Ser
                485   490   495
His Trp Leu Arg Phe Val Trp Pro Val Val Ala Phe Val Leu Ile Phe
                500   505   510
Gly Gly Gly Leu Leu Ile Thr Gln Val Leu Ile Tyr Ser
                515   520   525

<210> 4478
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4478
Asn Gly Glu Glu Trp Asn Asn Arg Met His Cys Met Asn Met Ile Lys
1   5   10   15
Leu Ile Ser Thr Tyr Thr Leu Lys Arg Tyr Phe Val Met Ser Val Pro

```
              20                      25                      30
Ile Leu Pro Ser Ser Ala Ala Ser Asn
          35                      40
```

<210> 4479
<211> 292
<212> PRT
<213> S.epidermidis

<400> 4479
```
Gly Ser Ser Phe Asn Cys Arg Asn Arg Thr Ser Ile Tyr Arg Thr Gly
1               5                   10                  15
Asp Asn Asp Ala Asn Met Asn Glu His Thr Lys Ile Glu Asn Gln Leu
            20                  25                  30
Gln Tyr Tyr Leu Glu Gln Phe Thr Tyr Leu His Gln Leu Val Leu Glu
            35                  40                  45
Asp Ser Arg His Ile Val Asp Leu Glu Asn Leu Ile Asp Glu Tyr Ser
        50                  55                  60
Gln Trp Ile Leu Gln Pro Leu Ala Glu His His Tyr Leu Thr Trp Asn
65                  70                  75                  80
Asp Leu Glu Thr Lys Ile Ser Phe Thr Lys Lys Leu Gln Glu Val Ser
                85                  90                  95
Ala Lys Cys Val Lys Gln Val Glu Val Ile Arg Ala Gln Arg Leu Leu
            100                 105                 110
Asn Gly Arg Ala Ser Thr Ser Gly Tyr Phe Glu Asn Ile Glu His Cys
            115                 120                 125
Ile Asn Glu Glu Phe Gly Arg Trp Gln Ile Gly Gln Asn Asp Lys Leu
        130                 135                 140
Leu Leu Ile Gly Ser Gly Ala Tyr Pro Met Thr Leu Ile Gln Val Ala
145                 150                 155                 160
Lys Glu Thr Gly Ala Ala Val Ile Gly Ile Asp Ile Asp Ser Glu Ala
                165                 170                 175
Val Asp Leu Gly Gln Arg Val Val Asn Val Leu Ala Pro Asn Glu Asp
            180                 185                 190
Ile Val Ile Ser Asn Gln Thr Val Asp Gln Leu Glu Asp Ile Gln Ser
            195                 200                 205
Val Thr His Ile Ile Phe Ser Ser Thr Ile Pro Ile Lys Tyr Asp Ile
        210                 215                 220
Leu Asn Glu Leu Tyr Thr Leu Thr Asn Asp Glu Val Val Val Ala Met
225                 230                 235                 240
Arg Tyr Gly Asp Asp Met Lys Ala Leu Phe Asn Tyr Pro Ser Gln Ala
                245                 250                 255
Thr Asp Glu Thr Gln Trp Arg Cys Glu Glu Leu Gln Thr Arg Pro Lys
            260                 265                 270
Gln Ile Phe Asp Ile Ala Leu Tyr Arg Lys Val Ala Ser Lys Val Gly
            275                 280                 285
Val Glu His Val
        290
```

<210> 4480
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4480
```
Thr Phe Gln Leu Arg Ala His Lys Pro Tyr Gly Asp Tyr Ile Gln Asn
```

```
1                 5                         10                        15
Lys Phe Tyr Ser Ile Ser Phe Ser Thr Leu Leu Ile Tyr Leu Phe Ile
                20                      25                  30
Ile Asn Phe Phe Leu Phe Lys Lys Pro
            35                      40
```

<210> 4481
<211> 306
<212> PRT
<213> S.epidermidis

<400> 4481
```
Lys Ile Lys Leu Leu Glu Val Leu Met Met Gln Lys Val Val Leu Thr
1               5                       10                  15
Ala Ala Ile Thr Gly Ala Gly Asp Thr Ile Gln Lys Asn Glu Asn Val
                20                      25                  30
Pro Val Thr Pro Gln Glu Leu Ala Asp Ser Ala Ile Lys Cys Ala Arg
            35                      40                  45
Ala Gly Ala Thr Val Ala His Ile His Val Arg Asp Pro Glu Thr Gly
        50                      55                      60
Gly Val Ser His Asp Pro Glu Leu Tyr Ala Glu Thr Val Arg Leu Ile
65                      70                      75                  80
Arg Glu Ala Asp Glu Asp Ile Val Ile Asn Val Thr Ser Gly Gly Gly
                85                      90                      95
Gly Asp Phe Ile Pro Ser Leu Glu His Pro Glu Thr Gly Gly Glu Gly
            100                     105                     110
Thr Trp Ile Gln Thr Pro Glu Glu Arg Phe Lys Pro Ile Gly Asp Leu
        115                     120                     125
Leu Pro Glu Met Cys Thr Leu Asp Cys Gly Ser Val Asn Met Gly Asp
        130                     135                     140
Ala Ile Tyr Leu Ser Pro Ala Ser Trp Leu Arg Lys Gln Ala Gln Met
145                     150                     155                 160
Val Lys Asp Ala Gly Val Lys Pro Glu Leu Glu Cys Phe Asp Thr Gly
                165                     170                     175
His Val Ser Phe Ala Lys Gln Met Ile Glu Glu Gly Leu Ile Asp Gly
            180                     185                     190
Asp Pro Met Phe Gln Phe Cys Leu Gly Ile Pro Trp Gly Ala Glu Asn
        195                     200                     205
Asp Pro Glu Thr Ile Glu Tyr Leu Lys Ser Arg Ile Pro Glu Asn Ala
        210                     215                     220
His Trp Ser Ala Phe Gly Ile Gly Lys Met Gln Leu Pro Thr Val Arg
225                     230                     235                 240
Lys Val Ala Gln Arg Gly Gly Asn Val Arg Val Gly Leu Glu Asp Asn
                245                     250                     255
Ile Tyr Leu Arg Lys Gly Val Lys Ala Thr Asn Glu Ala Leu Val Glu
            260                     265                     270
Glu Ala Lys Arg Ile Leu Ala Glu Leu Asp Ile Glu Pro Leu Thr Pro
        275                     280                     285
Ala Glu Ala Arg Glu Lys Phe Asn Leu Arg Asn Pro His Gly Lys Gly
        290                     295                     300
Asp Lys
305
```

<210> 4482
<211> 652
<212> PRT

<213> S.epidermidis

<400> 4482
```
Gly Lys Lys Leu Ile Glu Val Ile Phe Leu Lys Asn Asn Asn Glu Thr
1               5               10              15
Arg Arg Phe Ser Ile Arg Lys Tyr Thr Val Gly Val Val Ser Ile Ile
            20              25              30
Thr Gly Ile Thr Ile Phe Val Ser Gly Gln His Ala Gln Ala Ala Glu
        35              40              45
Met Thr Gln Ser Ser Ser Asp Ser Asn Glu Gln Ser Gln Gln Thr Glu
    50              55              60
Gln Val Glu His Lys Glu Asp Thr Thr His Leu Ser Asn Glu Leu Asn
65              70              75              80
Gln Glu Gly Glu Thr Ala Ser Gln Ser Lys Thr Ser Gln Glu Asn Gln
            85              90              95
Ser Asp Gly Asn Val Gln Lys Lys Ser Asn Gln Ile Gln Gln Asp Ser
        100             105             110
Thr Gln Thr Ser Pro Leu Asn Asp Gln Lys Gln Thr Ser Met Glu Gln
    115             120             125
Gln Ser Lys Asp Asn His Val Thr Pro Asn Ser Arg Gln Asp Thr Tyr
    130             135             140
Pro Lys Gly Gln Asn Gln Asp Asp Lys Gly Lys Gln Gln Phe Lys Asp
145             150             155             160
Asn Gln His Ser Gln Thr Gly His Gln Pro Asn Thr Gln Asn Gln Asn
            165             170             175
Asn Asp Gln Asp Ser Ser Asp Lys Lys Gln His Pro Ser Asp Gln Thr
        180             185             190
Gln Asp Ser Ser Ser Lys Gly Thr Gln Pro Lys Gln Ser Gln Ser Ile
    195             .200            205
Glu Asp Arg Asp Lys Thr Val Lys Gln Pro Ser Ser Lys Val His Lys
    210             215             220
Ile Gly Asn Thr Lys Thr Asp Lys Thr Val Lys Thr Asn Gln Lys Lys
225             230             235             240
Gln Thr Ser Leu Thr Ser Pro Arg Val Val Lys Ser Lys Gln Thr Lys
            245             250             255
His Ile Asn Gln Leu Thr Ala Gln Ala Gln Tyr Lys Asn Gln Tyr Pro
        260             265             270
Val Val Phe Val His Gly Phe Val Gly Leu Val Gly Glu Asp Ala Phe
        275             280             285
Ser Met Tyr Pro Asn Tyr Trp Gly Gly Thr Lys Tyr Asn Val Lys Gln
    290             295             300
Glu Leu Thr Lys Leu Gly Tyr Arg Val His Glu Ala Asn Val Gly Ala
305             310             315             320
Phe Ser Ser Asn Tyr Asp Arg Ala Val Glu Leu Tyr Tyr Tyr Ile Lys
            325             330             335
Gly Gly Arg Val Asp Tyr Gly Ala Ala His Ala Ala Lys Tyr Gly His
            340             345             350
Lys Arg Tyr Gly Arg Thr Tyr Glu Gly Ile Met Pro Asp Trp Glu Pro
            355             360             365
Gly Lys Lys Ile His Leu Val Gly His Ser Met Gly Gly Gln Thr Ile
    370             375             380
Arg Leu Met Glu His Phe Leu Arg Asn Gly Asn Gln Glu Glu Ile Asp
385             390             395             400
Tyr Gln Arg Gln Tyr Gly Gly Thr Val Ser Asp Leu Phe Lys Gly Gly
            405             410             415
Gln Asp Asn Met Val Ser Thr Ile Thr Thr Leu Gly Thr Pro His Asn
```

```
                420                      425                      430
    Gly Thr Pro Ala Ala Asp Lys Leu Gly Ser Thr Lys Phe Ile Lys Asp
                435                      440                      445
    Thr Ile Asn Arg Ile Gly Lys Ile Gly Gly Thr Lys Ala Leu Asp Leu
            450                      455                      460
    Glu Leu Gly Phe Ser Gln Trp Gly Phe Lys Gln Gln Pro Asn Glu Ser
    465                      470                      475                      480
    Tyr Ala Glu Tyr Ala Lys Arg Ile Ala Asn Ser Lys Val Trp Glu Thr
                    485                      490                      495
    Glu Asp Gln Ala Val Asn Asp Leu Thr Thr Ala Gly Ala Glu Lys Leu
                500                      505                      510
    Asn Gln Met Thr Thr Leu Asn Pro Asn Ile Val Tyr Thr Ser Tyr Thr
                515                      520                      525
    Gly Ala Ala Thr His Thr Gly Pro Leu Gly Asn Glu Val Pro Asn Ile
                530                      535                      540
    Arg Gln Phe Pro Leu Phe Asp Leu Thr Ser Arg Val Ile Gly Gly Asp
    545                      550                      555                      560
    Asp Asn Lys Asn Val Arg Val Asn Asp Gly Ile Val Pro Val Ser Ser
                    565                      570                      575
    Ser Leu His Pro Ser Asp Glu Ala Phe Lys Lys Val Gly Met Met Asn
                580                      585                      590
    Leu Ala Thr Asp Lys Gly Ile Trp Gln Val Arg Pro Val Gln Tyr Asp
                595                      600                      605
    Trp Asp His Leu Asp Leu Val Gly Leu Asp Thr Thr Asp Tyr Lys Arg
            610                      615                      620
    Thr Gly Glu Glu Leu Gly Gln Cys Tyr Met Ser Met Ile Asn Asn Met
    625                      630                      635                      640
    Leu Lys Val Glu Glu Leu Asp Gly Ile Thr Arg Lys
                    645                      650
```

<210> 4483
<211> 77
<212> PRT
<213> S.epidermidis

<400> 4483
```
    Lys Lys Pro Trp Phe Arg Glu Thr His Lys Lys His Pro Gln Pro Val
    1                   5                   10                      15
    Gln Ile Phe Met Asp Arg Asn Arg Gly Leu Glu Phe Phe Leu Ile Lys
                    20                      25                      30
    Lys Gly Leu Ser Ala Ile Phe Gln Leu Gly Pro Asn Phe Pro Asn Met
                35                      40                      45
    Trp Ser Gln Asn Phe Leu Ile Ser Ser Leu Glu Ile Arg Thr Ser Asp
            50                      55                      60
    Val Ser Glu Pro Arg Lys Ser Pro Trp Ser His Leu Cys
    65                      70                      75
```

<210> 4484
<211> 301
<212> PRT
<213> S.epidermidis

<400> 4484
```
    Asn Phe Arg Leu Arg Ser Asp Val Met Glu Ile Ile Ile Ile Gly Gly
    1                   5                   10                      15
    Phe Leu Gly Ser Gly Lys Thr Ser Ala Ile Asn His Leu Ile Ala Asp
```

```
            20                    25                    30
Ala Leu Glu Asn Asn Leu Asn Pro Ala Val Ile Met Asn Glu Phe Gly
        35                    40                    45
Lys Arg Ser Val Asp Gly Gln Leu Ile Glu Arg Pro Glu Val Pro Met
        50                    55                    60
Ser Glu Ile Thr Glu Gly Cys Ile Cys Cys Ala Met Lys Ser Asp Val
65                    70                    75                    80
Ser Gln Gln Leu His Glu Leu Tyr Leu Lys Tyr Gln Pro Asp Ile Ile
                85                    90                    95
Phe Ile Glu Cys Ser Gly Val Ala Glu Pro Leu Ala Val Val Asp Ala
            100                   105                   110
Cys Phe Thr Pro Val Leu Ala Pro Phe Ile Thr Leu Arg Ser Met Val
        115                   120                   125
Gly Ile Ile Asp Ala Ser Met Tyr Ser Arg Ile Lys Ser Tyr Pro Gln
        130                   135                   140
Asp Ile Ala Ala Leu Phe Tyr Glu Gln Leu Arg His Cys Ser Thr Leu
145                   150                   155                   160
Phe Val Asn Lys Ile Asp Lys Ile Glu Val Glu Glu Thr Ala Arg Leu
                165                   170                   175
Leu Arg Gln Leu Glu Arg Leu Asn Ser Asp Ala Asn Ile Gln Val Gly
            180                   185                   190
Gln Phe Gly Glu Leu Asn Leu Lys Ser Leu Leu Glu Pro Thr His Ile
        195                   200                   205
Asn Ser Asn Ala Cys Gly Thr Leu His Ser Asn Ile Asn His Gln Phe
        210                   215                   220
Ile Glu Asn Pro Arg Leu Gln Thr Lys Glu Glu Met Ile Ser Ala Leu
225                   230                   235                   240
Asp Asn Leu Pro Gln Asp Val Tyr Arg Val Lys Gly Phe Val Arg Phe
                245                   250                   255
Ser Asp Gln Gln His Val Tyr Leu Val Gln Tyr Ala Gln Gly Asn Ile
            260                   265                   270
Glu Leu Ser Pro Ile Gln Leu Lys Asn Asp Val Pro Leu Tyr Leu Ile
        275                   280                   285
Val Ile Gly Lys His Leu Lys Gln Ile Gln Leu Asp Leu
        290                   295                   300

<210> 4485
<211> 43
<212> PRT
<213> S.epidermidis


<400> 4485
Arg Val Leu Cys Leu Phe Ile Ser Val Ile Phe Arg Asn Asp Leu Leu
1                 5                   10                    15
Leu Ile Ile Tyr Lys Asp Leu Tyr Ile Glu Asn Ile Asp Cys Phe Asn
            20                    25                    30
Asn Arg Arg Ser Cys Cys Tyr Tyr Glu Ser Val
        35                    40


<210> 4486
<211> 52
<212> PRT
<213> S.epidermidis


<400> 4486
Leu Asn Gln Cys Glu Lys His Ile Tyr Arg Lys Phe Ile Lys Tyr Ile
```

```
1                5                    10                   15
Glu Asp Ile Gln Leu Ile Lys Lys Asn Asn Leu Ile Cys Asn Leu Asn
            20              25              30
Leu Tyr Phe Cys His Leu Ser Tyr Ser Asn Asn Ser Ile Phe Lys His
        35              40                  45
Phe His Ile Leu
        50
```

<210> 4487
<211> 239
<212> PRT
<213> S.epidermidis

<400> 4487
```
Thr Leu Lys Cys Asn Lys Phe Thr Leu Lys Ile Gly Asp Met Ile Asn
1                5                    10                   15
Met Asn Ile Phe Val Thr Gly Thr Asn Thr Asp Ile Gly Lys Thr Tyr
            20              25              30
Val Thr Lys Tyr Leu Tyr Lys Ala Leu Arg Thr Arg Gly Tyr Arg Val
        35              40                  45
Cys Ile Phe Lys Pro Phe Gln Thr Glu Glu Ile Gly Gly Gly Arg Tyr
        50              55                  60
Pro Asp Leu Glu Ile Tyr Lys Asn Glu Cys Asp Leu Asp Tyr Asp Val
65               70              75                   80
Thr Ser Leu Tyr Thr Phe Lys Asp Pro Val Ser Pro His Leu Ala Phe
            85              90                  95
Lys Ile Glu Arg His Gln Gln Leu Asn His Gln Thr Met Ile Asp Lys
            100             105             110
Leu Glu Ser Leu Lys Ala Gln Phe Asp Met Ile Leu Ile Glu Gly Ala
        115             120                 125
Gly Gly Ile Ala Val Pro Ile Tyr Glu Tyr Ser Asp His Phe Tyr Met
        130             135             140
Thr Thr Asp Leu Ile Lys Asp Thr Ser Asp Phe Ile Val Ser Val Leu
145             150             155                  160
Pro Ser Lys Leu Gly Ala Ile Asn Asp Ala Ile Val His Gln Lys Tyr
            165             170             175
Ile Asp His Gln Glu Leu Pro Pro Asn Val Leu Ile Met Asn Asn Tyr
            180             185             190
Thr Asp Ser Ala Ile Glu Gln Asp Asn Leu His Thr Ile Glu Lys Leu
        195             200             205
Ile His Lys Ser Val Tyr Thr Leu Gly His Gln Ala Thr Gln Glu Ser
        210             215             220
Phe Ser Glu Ala Phe Ile Gln Arg Ile Ile Gly Gly Ser Asn Gly
225             230             235
```

<210> 4488
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4488
```
Pro Ser Lys Cys Phe Asn Thr Ile Thr Ser Ile Leu Asn Asn His Ile
1                5                    10                   15
Pro Lys Leu Pro Leu Thr Asn Lys Leu Met Ala Glu Ser Phe Tyr Met
            20              25              30
Lys Leu Phe Phe Ile Thr Phe Phe Thr Thr Thr Lys Tyr Glu Gln
```

```
<210> 4489
<211> 267
<212> PRT
<213> S.epidermidis

<400> 4489
Ile Glu Arg Cys Glu Asn Met Gln His Ser Ser Lys Ile Ile Val Phe
1               5                   10                  15
Val Ser Phe Leu Ile Leu Thr Ile Phe Ile Gly Gly Cys Gly Phe Ile
            20                  25                  30
Asn Lys Glu Asp Ser Lys Glu Thr Glu Ile Lys Gln Asn Phe Asn Lys
        35                  40                  45
Met Leu Asp Val Tyr Pro Thr Lys Asn Leu Glu Asp Phe Tyr Asp Lys
        50                  55                  60
Glu Gly Tyr Arg Asp Glu Glu Phe Asp Lys Asp Asp Lys Gly Thr Trp
65                  70                  75                  80
Ile Ile Arg Ser Glu Met Thr Lys Gln Pro Lys Gly Lys Ile Met Thr
                85                  90                  95
Ser Arg Gly Met Val Leu Tyr Ile Asn Arg Asn Thr Arg Thr Ala Lys
            100                 105                 110
Gly Tyr Phe Leu Ile Asp Lys Ile Lys Asp Asp Ser Asn Gly Arg Pro
            115                 120                 125
Ile Glu Asn Glu Lys Lys Tyr Pro Val Lys Met Asn His Asn Lys Ile
        130                 135                 140
Phe Pro Thr Lys Pro Ile Ser Asp Asp Lys Leu Lys Lys Glu Ile Glu
145                 150                 155                 160
Asn Phe Lys Phe Phe Val Gln Tyr Gly Asn Phe Lys Asn Leu Lys Asp
                165                 170                 175
Tyr Lys Asn Gly Asp Ile Leu Tyr Asn Pro Asn Val Pro Ser Tyr Ser
            180                 185                 190
Ala Lys Tyr Gln Leu Ser Asn Asn Glu Tyr Asn Val Gln Gln Leu Arg
            195                 200                 205
Lys Arg Tyr Asp Ile Pro Thr Lys Lys Ala Pro Lys Leu Leu Leu Lys
        210                 215                 220
Arg Asp Gly Asp Leu Lys Gly Ser Ser Val Gly His Lys Asp Leu Glu
225                 230                 235                 240
Phe Thr Phe Val Glu Asn Lys Lys Glu Asn Ile Phe Phe Thr Asp Ser
                245                 250                 255
Ile Asn Phe Lys Pro Thr Glu Arg Asp Glu Ser
            260                 265

<210> 4490
<211> 222
<212> PRT
<213> S.epidermidis

<400> 4490
Thr Glu Arg Trp Ser Ile Asn Met Glu Gly Asn Leu Ile Gln Gln Leu
1               5                   10                  15
Val His Tyr Tyr Gln Met Asn Phe Gly Tyr Leu Trp Glu Leu Phe Val
            20                  25                  30
Asn His Leu Leu Met Ser Val Tyr Gly Val Leu Leu Ala Cys Leu Val
        35                  40                  45
Gly Ile Pro Leu Gly Ile Ile Ile Ala Arg Phe Gly Lys Leu Ser Gly
```

```
            50                    55                    60
Val Ile Ile Thr Ile Ala Asn Ile Ile Gln Thr Val Pro Val Ile Ala
65                    70                    75                    80
Met Leu Ala Ile Leu Met Leu Ser Met Gly Leu Gly Met Asn Thr Val
                      85                    90                    95
Ile Phe Thr Val Phe Leu Tyr Ala Leu Leu Pro Ile Ile Lys Asn Thr
                     100                   105                   110
Tyr Thr Gly Ile Asn Glu Val Asp Pro Asn Ile Lys Asp Ala Gly Lys
                 115                   120                   125
Gly Met Gly Met Thr Arg Asn Gln Val Leu Thr Met Ile Glu Leu Pro
             130                   135                   140
Leu Ser Leu Ser Val Ile Ile Gly Gly Ile Arg Ile Ala Leu Val Val
145                   150                   155                   160
Ala Ile Gly Val Val Ala Val Gly Ser Phe Ile Gly Ala Pro Thr Leu
                 165                   170                   175
Gly Asp Ile Val Ile Arg Gly Thr Asn Ala Thr Asp Gly Thr Leu Phe
                 180                   185                   190
Ile Leu Ala Gly Ala Ile Pro Ile Val Ile Ile Val Ile Leu Ile Asp
             195                   200                   205
Val Leu Leu Arg Leu Leu Glu Lys Lys Leu Asp Pro Ala Thr
         210                   215                   220
```

<210> 4491
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4491
```
Lys Ser Leu Leu Asn Gln Tyr Val Phe Glu Tyr Phe Ser Asn His Pro
1                   5                    10                    15
Thr Ser Lys Phe Lys Val Leu Arg Lys Ile Ile Ile Lys Glu Tyr Lys
                 20                    25                    30
Gly Glu Leu Met Leu Ser Ile Gln Lys Gln Arg
             35                    40
```

<210> 4492
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4492
```
Asp Leu Ile Arg Glu Tyr Met Leu Ala Ser Ile Ile Pro Thr Ile Leu
1                   5                    10                    15
Leu Lys Val Ile Lys Gly Ala Ser Thr Gly Val Lys His Ala Ser Thr
                 20                    25                    30
Thr Ala Ser Gly Ser Ala Thr Pro Leu His Ser Ile Lys Met Ile Ser
             35                    40                    45
Gly
```

<210> 4493
<211> 320
<212> PRT
<213> S.epidermidis

<400> 4493

```
Ile Ala Met Leu Lys Arg Thr Ile Lys Phe Ile Leu Tyr Leu Ile Val
·1              5                   10              15
Ser Ser Phe Ile Ile Phe Ile Leu Val Glu Lys Thr Ser Gly Asn Pro
             20              25              30
Ala Ile Leu Tyr Leu Gln Arg His Gly Tyr Thr Ser Ile Thr Gln Asp
         35              40              45
Asn Ile Glu Ala Ala Gln His Gln Leu Gly Leu Gly Gln His Val Leu
     50              55              60
Leu Arg Tyr Ile Asp Trp Val Gly His Ala Leu Thr Gly Asn Leu Gly
65              70              75              80
Tyr Gly Phe Ser Thr Asn Glu Ala Val Thr Ala Met Ile Met Glu Ala
             85              90              95
Ile Val Pro Thr Leu Val Leu Ile Ile Val Ser Ser Cys Ile Met Leu
             100             105             110
Pro Phe Gly Tyr Ile Val Gly Tyr Phe Val Gly Thr Arg Pro His Thr
         115             120             125
Arg Tyr Ala Asn Gly Ile Arg Gly Phe Ala Gln Val Met Thr Ser Met
     130             135             140
Pro Glu Tyr Trp Leu Ala Ile Leu Phe Ile Tyr Tyr Leu Gly Val Arg
145             150             155             160
Trp Gln Leu Leu Pro Phe Val Gly Ser Asp Ser Trp Gln His Phe Val
             165             170             175
Leu Pro Ile Phe Thr Ile Val Val Ile Glu Gly Cys His Ile Leu Leu
         180             185             190
Met Thr Ala His Leu Ile Thr Gln Thr Leu Asp Gln Asp Ala Tyr Gln
         195             200             205
Leu Ala Gln Leu Arg His Phe Ser Leu Lys Ala Arg Ile Ile Val Gln
     210             215             220
Ile Lys Glu Ile Phe Ala Pro Leu Met Thr Ile Ser Ile Asn Ser Ile
225             230             235             240
Ile His Leu Ile Gly Lys Ala Val Ile Leu Glu Val Ile Phe Ser Met
             245             250             255
Ser Gly Ile Gly Lys Leu Leu Ile Asn Ala Ile Asn Gln Arg Asp Tyr
             260             265             270
Pro Leu Ile Gln Gly Ile Val Ile Phe Ile Ile Val Phe Ile Met Leu
         275             280             285
Met Asn Tyr Leu Gly Asp Val Ile Ile Leu Lys Asn Glu Pro Arg Leu
     290             295             300
Arg Arg Arg His Thr Gln Gln Ser Gly Asn Glu Lys Arg Gly Thr Met
305             310             315             320
```

<210> 4494
<211> 109
<212> PRT
<213> S.epidermidis

<400> 4494

```
Lys Gly Val Leu Met His Asn Tyr Asn Asn Ile Asn Ile Val Ser Asp
1               5                   10              15
Asp Ser Lys Tyr Gln Glu Ile Cys Trp Phe His Thr Leu Glu Gly Ile
             20              25              30
Trp His Pro Val Glu Val Glu Thr Ser Pro Leu Asn Ile Thr Phe Asn
         35              40              45
Lys Asp Ile Thr Pro Asn Tyr Val Cys Thr Leu Ile Asn Glu Asp Ser
     50              55              60
Arg Lys Ile Ile Leu Ser Asn Val Asp Asn Pro Asn Ile Ile Ile Glu
```

```
65                      70                      75                      80
Met Ile Leu Ile Asn Ser Lys Lys Leu Val Phe Asn Ala Ile Ser Lys
                    85                      90                  95
Glu Gly Leu Gly Thr Ser Pro Lys Ile Thr Phe Thr Lys
                100                     105
```

<210> 4495
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4495
```
Thr Ile Lys Arg Glu Asn Ser Val Ile Ile Tyr Leu Lys Val Val Val
1                   5                   10                  15
Ser Tyr Val Ser Phe Val Val Ile Ser Ser Cys Val Lys Ile Arg Asp
                20                      25                  30
Tyr Tyr Tyr Lys Glu Gly Leu Asn Lys Ser
            35                  40
```

<210> 4496
<211> 344
<212> PRT
<213> S.epidermidis

<400> 4496
```
Ile Leu Lys Arg Asn Asn Phe Asp Leu Gly Asp Val His Met Tyr Lys
1                   5                   10                  15
Lys Gly Leu Ile Leu Phe Phe Val Ala Val Leu Thr Leu Ala Leu Ala
                20                      25                  30
Ala Cys Gly Lys Asp Ser His Asn Gln Ser Ser Asp His Lys Gly Lys
            35                  40                  45
Leu Asp Val Asn Thr Thr Val Tyr Pro Leu Lys Ser Phe Ala Gln Gln
        50                  55                  60
Ile Gly Gly Lys Tyr Val Asn Val Glu Ser Val Tyr Pro Lys Gly Val
65                  70                  75                      80
Asp Pro His Thr Tyr Asp Pro Ser Gln Lys Gln Met Val Asp Ile Gly
                85                  90                      95
Lys Ser Asp Leu Phe Leu Tyr Thr Gly Asp Asn Leu Asp Pro Val Ala
            100                 105                 110
Lys Lys Ile Ala Lys Ala Ile Asn Asp Lys Asp Lys Thr Leu Ser Leu
        115                 120                 125
Glu Ser Thr Leu Asp Lys Asn Lys Asp Leu Leu Lys Gly Glu Glu His
        130                 135                 140
Glu His Glu His Gly Glu Gly His Glu His Gly Glu Ser His Glu Asp
145                 150                 155                 160
Glu His Glu His Glu His His His His Gly Lys Tyr Asp Pro His Ile
                165                 170                 175
Trp Leu Asp Pro Val Val Ser Gln Lys Phe Ala Lys Ala Ile Lys Asp
            180                 185                 190
Glu Leu Ile Glu Lys Asp Ser Lys His Lys Ser Tyr Tyr Glu Lys Asn
        195                 200                 205
Tyr Asn Gln Leu Val Lys Glu Leu Lys Asp Leu Asp Lys Asp Met Lys
        210                 215                 220
His Ala Val Lys Gly Asn Glu Asp Lys Thr Val Tyr Ile Ser His Asp
225                 230                 235                 240
Ser Ile Gly Tyr Leu Ala Glu Arg Tyr His Phe Glu Gln Glu Gly Ile
```

```
                  245                     250                     255
Glu Asn Met Asn Ala Glu Glu Pro Ser Gln Lys Asp Leu Thr Asn Ile
                  260                     265                     270
Val Lys Gln Ile Lys Glu Asp Lys Val Lys Asn Ile Leu Ile Glu Glu
              275                     280                     285
Asn Val Ser His Lys Val Ala Asp Thr Val Arg Lys Glu Thr Asn Ala
          290                     295                     300
Lys Thr Ile Lys Phe Tyr Asn Met Gly Ser His Thr Lys Gln Gln Asp
305                     310                     315                     320
Asp Asp Asn Asn Thr Tyr Gln Ser Phe Met Lys Glu Asn Ile Lys Ala
                  325                     330                     335
Ile Glu Lys Ala Leu Gln Asn Glu
              340
```

<210> 4497
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4497
```
Ser Asn Ile Leu Glu Gly Leu Arg Glu Asn Asn His Ala Thr Pro Lys
1               5                       10                      15
Asn Lys Ile Leu Lys Ile Gly Asn Asn Ala Trp Ala Val Pro Asp Glu
              20                      25                      30
Ile Asn Gly Glu Asn Ala Ile Ser Asn Asp Val Val Ala Ser Leu Gly
          35                      40                      45
Asn Ala Lys Asn Gly Pro Ile Thr Arg Tyr Lys Pro Ile Val Asn Lys
      50                      55        .               60
```

<210> 4498
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4498
```
Lys Thr Ile Arg Lys Ile Lys Ile Asn Lys Ile Leu Ile Asn Ile Val
1               5                       10                      15
Leu Leu Lys Leu Arg Ala Ile Trp Tyr Glu Leu Tyr Ile Ser Asn Leu
              20                      25                      30
Lys Asn Tyr Cys Glu Phe Val Leu Leu Lys Arg Leu Thr Ala Met
          35                      40                      45
```

<210> 4499
<211> 466
<212> PRT
<213> S.epidermidis

<400> 4499
```
Arg Lys Ser Arg Arg Pro Leu Thr Met Ser Glu Gln Phe Asn Lys Gly
1               5                       10                      15
Lys Gln Leu Ile Val Ala Ile Ile Leu Gly Ile Leu Thr Tyr Trp Leu
              20                      25                      30
Phe Ala Gln Ser Phe Leu Asn Ile Ala Pro His Val Gln Arg Phe Tyr
          35                      40                      45
His Val Asp Met Ser Ile Val Asn Ile Ala Val Ser Leu Thr Ser Leu
      50                      55                      60
```

```
Leu Thr Gly Val Phe Ile Val Val Ala Gly Gly Leu Ser Asp Lys Ile
65                  70              75                  80
Gly Arg Val Lys Ile Thr Asn Ala Gly Leu Ile Leu Ser Ile Leu Gly
                85              90              95
Ser Ile Ala Leu Ile Ile Ser His Ala Pro Ile Leu Leu Leu Leu Gly
            100             105             110
Arg Val Leu Gln Gly Leu Ser Ala Ala Cys Leu Leu Pro Ala Thr Ile
        115             120             125
Ala Leu Ile Asn Ser Phe Phe Gln Gly Glu Glu Arg Gln Lys Val Leu
        130             135             140
Ser Tyr Trp Ser Phe Gly Ser Tyr Gly Gly Thr Gly Leu Ala Ser Leu
145             150             155                 160
Phe Ala Gly Ile Ile Ala Thr Phe Ile Gly Trp Arg Trp Ile Phe Val
            165             170             175
Leu Ser Ile Ile Phe Ser Ile Ile Ala Leu Ile Leu Leu Arg Gly Ile
            180             185             190
Pro Glu Ser Lys Asp Glu Ser Ala Tyr Asn Lys Lys Phe Asp Ile Val
        195             200             205
Gly Ile Ile Ile Phe Val Val Met Met Leu Ser Ile Asn Val Val Ile
    210             215             220
Thr Gln Gly Asp Arg Ile Gly Trp Leu Asn Pro Leu Ile Leu Ile Leu
225             230             235             240
Ile Ala Ile Phe Ile Val Thr Leu Ile Ala Phe Tyr Ile Phe Glu Lys
            245             250             255
Arg Gln Asp Glu Pro Phe Ile Asp Leu Ser Leu Phe Ser Asn Asn Val
        260             265             270
Tyr Ile Gly Thr Thr Leu Ala Asn Leu Met Val Asn Met Asp Ile Gly
        275             280             285
Ser Leu Ala Leu Phe Asn Ile Tyr Val Gln Asp Asp Lys His Leu Ser
    290             295             300
Ala Ala Gln Ala Gly Leu Ile Thr Ile Pro Tyr Met Leu Cys Ser Leu
305             310             315             320
Leu Met Ile Arg Val Gly Glu Arg Phe Met Gln Lys Arg Gly Pro Gln
            325             330             335
Leu Pro Leu Met Leu Gly Pro Val Ser Ile Thr Val Gly Ile Ile Leu
        340             345             350
Leu Ala Phe Thr Ser Leu Pro Asn Met Ile Tyr Tyr Ile Val Ala Cys
        355             360             365
Ile Gly Phe Ile Phe Ile Gly Leu Gly Leu Gly Phe Phe Ala Thr Pro
    370             375             380
Ala Leu Ser Thr Ala Val Ser Asn Val Pro Ala Glu Lys Ala Gly Thr
385             390             395             400
Ala Ser Gly Ile Ile Lys Met Thr Ser Thr Leu Gly Ala Ala Phe Gly
            405             410             415
Ile Ala Val Val Thr Thr Ile Tyr Thr Ala Leu Ser Val Asn His Pro
            420             425             430
Ala Tyr Leu Ala Ala Thr Ile Ala Phe Ile Val Gly Ala Gly Leu Val
        435             440             445
Phe Ile Ala Phe Ile Ala Ala Tyr Cys Leu Ile Pro Lys Lys Asn Val
    450             455             460
Asp Ile
465

<210> 4500
<211> 47
<212> PRT
```

<213> S.epidermidis

<400> 4500
Ile Phe Lys Arg Tyr Ile Val Ala Val Lys Ser Ser Val Ser Asn Leu
1   5   10   15
Lys Leu Tyr Leu Ile Met His Lys Asn Asn Asn Phe Ser Thr Asn Ile
            20   25   30
Leu Thr Thr Phe Asp Ile Ser Gln Ser Tyr Tyr Tyr His His Val
        35   40   45

<210> 4501
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4501
Lys Arg Gly Arg Asn Arg Val Lys Val Gln Ser Ile Val Glu Ile Lys
1   5   10   15
Asn Leu Glu Asn Gly Asn Ile Ser Gln Glu Ile Asp Asn Val Ser Ile
            20   25   30
Leu Lys Ala Ser Val Val Phe Val Cys Leu Thr Leu Ile Leu Leu Cys
        35   40   45
Ile Leu
    50

<210> 4502
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4502
Ile Gly Met Ser Asn Ala Gly Leu Thr Ile Val Ile Tyr Thr Ser Ile
1   5   10   15
Glu Glu Thr Ala Glu Ser Val Asn Thr Leu Phe Leu Asn Thr Arg Ile
            20   25   30
Phe Asn Asn Gly Cys Phe Asn Leu Ser
        35   40

<210> 4503
<211> 315
<212> PRT
<213> S.epidermidis

<400> 4503
Lys Glu Val Ser Glu Met Ala Lys Ile Val Val Ala Leu Gly Gly Asn
1   5   10   15
Ala Leu Gly Lys Ser Pro Gln Glu Gln Leu Glu Leu Val Lys Asn Thr
            20   25   30
Ala Lys Ser Leu Val Gly Leu Ile Thr Lys Gly His Glu Ile Val Ile
        35   40   45
Ser His Gly Asn Gly Pro Gln Val Gly Ser Ile Asn Leu Gly Leu Asn
    50   55   60
Tyr Ala Ala Glu His Asp Gln Gly Pro Ala Phe Pro Phe Ala Glu Cys
65   70   75   80
Gly Ala Met Ser Gln Ala Tyr Ile Gly Tyr Gln Leu Gln Glu Ser Leu
            85   90   95

```
Gln Asn Glu Leu His Ser Met Gly Ile Asp Lys Gln Val Val Thr Leu
            100                 105             110
Val Thr Gln Val Glu Val Asp Glu Gly Asp Pro Ala Phe Asn Ser Pro
            115                 120             125
Ser Lys Pro Ile Gly Leu Phe Tyr Thr Lys Glu Glu Ala Asn Arg Ile
            130             135             140
Gln Gln Glu Lys Gly Tyr Gln Phe Val Glu Asp Ala Gly Arg Gly Tyr
145                 150                 155             160
Arg Arg Val Val Pro Ser Pro Gln Pro Ile Ser Ile Ile Glu Leu Glu
                165                 170             175
Ser Ile Lys Thr Leu Val Glu Asn Asp Thr Leu Val Ile Ala Ala Gly
            180                 185             190
Gly Gly Gly Ile Pro Val Ile Arg Glu Gln His Asp Ser Phe Lys Gly
            195             200             205
Ile Asp Ala Val Ile Asp Lys Asp Lys Thr Ser Ala Leu Leu Gly Ala
            210             215             220
Asp Ile His Cys Asp Gln Leu Ile Ile Leu Thr Ala Ile Asp Tyr Val
225             230             235             240
Tyr Ile Asn Tyr His Thr Asp Gln Gln Gln Ala Leu Lys Thr Thr Asn
                245                 250             255
Ile Asp Thr Leu Lys Thr Tyr Ile Glu Glu Lys Gln Phe Ala Lys Gly
            260             265             270
Ser Met Leu Pro Lys Ile Glu Ser Ala Ile Ser Phe Ile Glu Asn Asn
            275             280             285
Pro Asn Gly Ser Val Leu Ile Thr Ser Leu Asn Gln Leu Asp Ala Ala
            290             295             300
Leu Glu Gly Lys Ile Gly Thr Leu Ile Thr Lys
305             310             315
```

<210> 4504
<211> 111
<212> PRT
<213> S.epidermidis

<400> 4504
```
Ile Ile Arg Arg Phe Phe Ser Met Lys Arg Ala Ser Tyr Ser Val Glu
1               5                   10              15
Thr Lys Tyr Lys Ala Val Glu Met Lys Ala Ala Gly Phe Ser Thr Lys
            20                  25              30
Glu Ile Met Lys Glu Leu Asn Ile Arg Asn Arg Thr Gln Val Lys Thr
            35              40                  45
Trp Trp Arg Trp Tyr Arg Asn Gly Glu Ser Tyr Arg Phe Ser Gln Gln
        50              55                  60
Val Gly Lys Gln Tyr Thr Tyr Gly Lys Gly Leu Glu Glu Leu Ser Glu
65              70                  75              80
Val Glu Gln Leu Lys Leu Glu Asn Lys Arg Lys Asp Ile Glu Leu Asp
                85                  90              95
Ile Leu Lys Lys Tyr Lys Ala Leu Glu Arg Lys Trp Tyr Gln Gln
            100             105             110
```

<210> 4505
<211> 81
<212> PRT
<213> S.epidermidis

<400> 4505

```
Tyr Asn Arg Arg Asn Ser Lys Met Lys Val Tyr Lys Leu Asn Tyr Gln
1                   5                   10                  15
His His Lys Asp Ile Val Asp Asp Asn Val Leu Thr Met Phe Val Thr
            20                  25                  30
Ala Asp Asn Gln Asp Glu Val Glu Ala Phe Ala Lys Lys Leu His Tyr
            35                  40                  45
Lys Ile Glu His Leu Ser Pro Leu Thr Lys Lys Glu Phe Glu Asp Glu
    50                  55                  60
Lys Ala Lys Asp Ser His Tyr Arg Leu Glu His Val Asp His Tyr Leu
65                  70                  75                  80
Asn
```

```
<210> 4506
<211> 997
<212> PRT
<213> S.epidermidis
```

```
<400> 4506
Ile His Gly Arg Tyr Asn Met Gly Lys Arg Arg Gln Gly Pro Ile Asn
1                   5                   10                  15
Lys Lys Val Asp Phe Leu Pro Asn Lys Leu Asn Lys Tyr Ser Ile Arg
            20                  25                  30
Lys Phe Thr Val Gly Thr Ala Ser Ile Leu Leu Gly Ser Thr Leu Ile
            35                  40                  45
Phe Gly Ser Ser Ser His Glu Ala Lys Ala Ala Glu Glu Lys Gln Val
    50                  55                  60
Asp Pro Ile Thr Gln Ala Asn Gln Asn Asp Ser Ser Glu Arg Ser Leu
65                  70                  75                  80
Glu Asn Thr Asn Gln Pro Thr Val Asn Asn Glu Ala Pro Gln Met Ser
            85                  90                  95
Ser Thr Leu Gln Ala Glu Glu Gly Ser Asn Ala Glu Ala Pro Gln Ser
            100                 105                 110
Glu Pro Thr Lys Ala Glu Glu Gly Gly Asn Ala Glu Ala Pro Gln Ser
            115                 120                 125
Glu Pro Thr Lys Ala Glu Glu Gly Gly Asn Ala Glu Ala Pro Gln Ser
            130                 135                 140
Glu Pro Thr Lys Ala Glu Glu Gly Gly Asn Ala Glu Ala Pro Gln Ser
145                 150                 155                 160
Glu Pro Thr Lys Ala Glu Glu Gly Gly Asn Ala Glu Ala Pro Gln Ser
            165                 170                 175
Glu Pro Thr Lys Thr Glu Glu Gly Ser Asn Ala Glu Ala Pro Asn Val
            180                 185                 190
Pro Thr Ile Lys Ala Asn Ser Asp Asn Asp Thr Gln Thr Gln Phe Ser
            195                 200                 205
Glu Ala Pro Thr Arg Asn Asp Leu Ala Arg Lys Glu Asp Ile Pro Ala
    210                 215                 220
Val Ser Lys Asn Glu Glu Leu Gln Ser Ser Gln Pro Asn Thr Asp Ser
225                 230                 235                 240
Lys Ile Glu Pro Thr Thr Ser Glu Pro Val Asn Leu Asn Tyr Ser Ser
            245                 250                 255
Pro Phe Met Ser Leu Leu Ser Met Pro Ala Asp Ser Ser Ser Asn Asn
            260                 265                 270
Thr Lys Asn Thr Ile Asp Ile Pro Pro Thr Thr Val Lys Gly Arg Asp
    275                 280                 285
Asn Tyr Asp Phe Tyr Gly Arg Val Asp Ile Glu Ser Asn Pro Thr Asp
```

```
                290                         295                        300
     Leu Asn Ala Thr Asn Leu Thr Arg Tyr Asn Tyr Gly Gln Pro Pro Gly
     305                     310                     315                    320
     Thr Thr Thr Ala Gly Ala Val Gln Phe Lys Asn Gln Val Ser Phe Asp
                         325                     330                    335
     Lys Asp Phe Asp Phe Asn Ile Arg Val Ala Asn Asn Arg Gln Ser Asn
                     340                     345                     350
     Thr Thr Gly Ala Asp Gly Trp Gly Phe Met Phe Ser Lys Lys Asp Gly
                 355                     360                     365
     Asp Asp Phe Leu Lys Asn Gly Gly Ile Leu Arg Glu Lys Gly Thr Pro
             370                     375                     380
     Ser Ala Ala Gly Phe Arg Ile Asp Thr Gly Tyr Tyr Asn Asn Asp Pro
     385                     390                     395                    400
     Leu Asp Lys Ile Gln Lys Gln Ala Gly Gln Gly Tyr Arg Gly Tyr Gly
                         405                     410                    415
     Thr Phe Val Lys Asn Asp Ser Gln Gly Asn Thr Ser Lys Val Gly Ser
                     420                     425                     430
     Gly Thr Pro Ser Thr Asp Phe Leu Asn Tyr Ala Asp Asn Thr Thr Asn
                 435                     440                     445
     Asp Leu Asp Gly Lys Phe His Gly Gln Lys Leu Asn Asn Val Asn Leu
             450                     455                     460
     Lys Tyr Asn Ala Ser Asn Gln Thr Phe Thr Ala Thr Tyr Ala Gly Lys
     465                     470                     475                    480
     Thr Trp Thr Ala Thr Leu Ser Glu Leu Gly Leu Ser Pro Thr Asp Ser
                         485                     490                    495
     Tyr Asn Phe Leu Val Thr Ser Ser Gln Tyr Gly Asn Gly Asn Ser Gly
                     500                     505                     510
     Thr Tyr Ala Ser Gly Val Met Arg Ala Asp Leu Asp Gly Ala Thr Leu
                 515                     520                     525
     Thr Tyr Thr Pro Lys Ala Val Asp Gly Asp Pro Ile Ile Ser Thr Lys
             530                     535                     540
     Glu Ile Pro Phe Asn Lys Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro
     545                     550                     555                    560
     Gly Thr Glu Lys Val Val Gln Lys Gly Glu Pro Gly Ile Glu Thr Thr
                         565                     570                    575
     Thr Thr Pro Thr Tyr Val Asn Pro Asn Thr Gly Glu Lys Val Gly Glu
                     580                     585                     590
     Gly Glu Pro Thr Glu Lys Ile Thr Lys Gln Pro Val Asp Glu Ile Val
                 595                     600                     605
     His Tyr Gly Gly Glu Glu Ile Lys Pro Gly His Lys Asp Glu Phe Asp
             610                     615                     620
     Pro Asn Ala Pro Lys Gly Ser Gln Thr Thr Gln Pro Gly Lys Pro Gly
     625                     630                     635                    640
     Val Lys Asn Pro Asp Thr Gly Glu Val Val Thr Pro Pro Val Asp Asp
                         645                     650                    655
     Val Thr Lys Tyr Gly Pro Val Asp Gly Asp Pro Ile Thr Ser Thr Glu
                 660                     665                     670
     Glu Ile Pro Phe Asp Lys Lys Arg Glu Phe Asn Pro Asp Leu Lys Pro
             675                     680                     685
     Gly Glu Glu Arg Val Lys Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile
         690                     695                     700
     Thr Thr Pro Thr Thr Lys Asn Pro Leu Thr Gly Glu Lys Val Gly Glu
     705                     710                     715                    720
     Gly Glu Pro Thr Glu Lys Val Thr Lys Gln Pro Val Asp Glu Ile Thr
                 725                     730                     735
     Glu Tyr Gly Gly Glu Glu Ile Lys Pro Gly His Lys Asp Glu Phe Asp
```

```
                 740                    745                    750
Pro Asn Ala Pro Lys Gly Ser Gln Glu Asp Val Pro Gly Lys Pro Gly
            755                    760                    765
Val Lys Asn Pro Asp Thr Gly Glu Val Val Thr Pro Pro Val Asp Asp
        770                    775                    780
Val Thr Lys Tyr Gly Pro Val Asp Gly Asp Pro Ile Thr Ser Thr Glu
785                    790                    795                    800
Glu Ile Pro Phe Asp Lys Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro
                805                    810                    815
Gly Thr Glu Lys Val Val Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile
            820                    825                    830
Thr Thr Pro Thr Thr Lys Asn Pro Leu Thr Gly Glu Lys Val Gly Glu
            835                    840                    845
Gly Glu Pro Thr Glu Lys Val Thr Lys Gln Pro Val Asp Glu Ile Val
        850                    855                    860
His Tyr Gly Gly Glu Glu Ile Lys Pro Gly His Lys Asp Glu Phe Asp
865                    870                    875                    880
Pro Asn Ala Pro Lys Gly Ser Gln Glu Asp Val Pro Gly Lys Pro Gly
                885                    890                    895
Val Lys Asn Pro Asp Thr Gly Glu Val Val Thr Pro Pro Val Asp Asp
            900                    905                    910
Val Thr Lys Tyr Gly Pro Val Asp Gly Asp Pro Ile Thr Ser Thr Glu
            915                    920                    925
Glu Ile Pro Phe Asp Lys Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro
        930                    935                    940
Gly Thr Glu Lys Val Val Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile
945                    950                    955                    960
Thr Thr Pro Thr Thr Lys Asn Pro Leu Thr Gly Glu Lys Val Gly Glu
                965                    970                    975
Gly Glu Pro Thr Glu Lys Ile Thr Lys Gln Pro Val Asp Glu Ile Thr
            980                    985                    990
Glu Tyr Gly Gly Glu
            995
```

<210> 4507
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4507
```
Arg Ile Tyr Gly Tyr Trp Ser Leu Ile Pro Lys Phe Ser Tyr Tyr Ile
1               5                   10                  15
Phe Asn Glu Ile Pro Cys His Phe His Ile Phe Asn Ser Ile Asn Asn
            20                  25                  30
Tyr Ile Ile Phe Leu Lys Ile Lys Tyr Ile Lys Ile Phe Phe Phe Ile
        35                  40                  45
Phe Asn Ile Ile Ile Ser Val Tyr Leu Pro Thr Leu Pro Leu Ala Leu
    50                  55                  60
```

<210> 4508
<211> 105
<212> PRT
<213> S.epidermidis

<400> 4508
```
Ser Ser His Gly Thr Ile Cys Phe Lys Pro Ser Leu Ile Ile Leu Ser
```

```
1                   5                       10                      15
Ser Ser Gln Ile Thr Thr Leu Asn Ile Phe Ile Pro Pro Arg Gln Val
                20                  25                  30
Val Phe Gly Asn Thr Leu Met Ser Leu Ala Gly Phe Leu Arg Lys Cys
            35                  40                  45
Ala Asp Val His Met Phe His Ile Glu Ser Trp Leu Tyr Tyr Val Asn
        50                  55                  60
Asp Leu Asn Leu Gly Val Ser Tyr Gln Lys His Arg Asp Glu Gly Ile
65                  70                  75                  80
Gly Ala Arg Val Leu Asn Val Met Glu Thr Tyr Arg Cys His Tyr His
                85                  90                  ·95
Glu Pro Glu Tyr Val Ile Cys Ala Ser
            100             105
```

<210> 4509
<211> 1081
<212> PRT
<213> S.epidermidis

<400> 4509
```
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
1                   5                       10                      15
Ser Gln Glu Asp Val Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
                20                  25                  30
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
            35                  40                  45
Val Asp Gly Asp Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
        50                  55                  60
Lys Arg Glu Phe Asn Pro Asp Leu Lys Pro Gly Glu Glu Arg Val Lys
65                  70                  75                  80
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
                85                  90                  95
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
                100             105                 110
Val Thr Lys Gln Pro Val Asp Glu Ile Thr Glu Tyr Gly Gly Glu Glu
            115                 120                 125
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
            130                 135                 140
Ser Gln Glu Asp Val Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
145                 150                 155                 160
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
                165                 170                 175
Val Asp Gly Asp Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
            180                 185                 190
Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro Gly Thr Glu Lys Val Val
            195                 200                 205
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
            210                 215                 220
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
225                 230                 235                 240
Val Thr Lys Gln Pro Val Asp Glu Ile Val His Tyr Gly Gly Glu Glu
                245                 250                 255
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
            260                 265                 270
Ser Gln Glu Asp Val Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
            275                 280                 285
```

```
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
    290                 295             300
Val Asp Gly Asp Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
305             310             315                 320
Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro Gly Thr Glu Lys Val Val
                325             330             335
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
            340             345             350
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
            355             360             365
Ile Thr Lys Gln Pro Val Asp Glu Ile Val His Tyr Gly Gly Glu Glu
    370             375             380
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
385             390             395                 400
Ser Gln Thr Thr Gln Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
                405             410             415
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
                420             425             430
Val Asp Gly Asp Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
            435             440             445
Lys Arg Glu Phe Asn Pro Asp Leu Lys Pro Gly Glu Glu Arg Val Lys
    450             455             460
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
465             470             475                 480
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
            485             490             495
Ile Thr Lys Gln Pro Val Asp Glu Ile Thr Glu Tyr Gly Gly Glu Glu
            500             505             510
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
    515             520             525
Ser Gln Thr Thr Gln Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
    530             535             540
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
545             550             555                 560
Val Asp Gly Asp Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
                565             570             575
Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro Gly Thr Glu Lys Val Val
            580             585             590
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
            595             600             605
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
    610             615             620
Ile Thr Lys Gln Pro Val Asp Glu Ile Val His Tyr Gly Gly Glu Glu
625             630             635                 640
Ile Lys Pro Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Lys Gly
            645             650             655
Ser Gln Glu Asp Val Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
            660             665             670
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
            675             680             685
Val Asp Gly Asp Ser Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
    690             695             700
Lys Arg Glu Phe Asp Pro Asn Leu Ala Pro Gly Thr Glu Lys Val Val
    705             710             715             720
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Thr Thr Lys
            725             730             735
```

```
Asn Pro Leu Thr Gly Glu Lys Val Gly Glu Gly Glu Pro Thr Glu Lys
            740                 745                 750
Ile Thr Lys Gln Pro Val Asp Glu Ile Val His Tyr Gly Gly Glu Gln
            755                 760                 765
Ile Pro Gln Gly His Lys Asp Glu Phe Asp Pro Asn Ala Pro Val Asp
            770                 775         ·       780
Ser Lys Thr Glu Val Pro Gly Lys Pro Gly Val Lys Asn Pro Asp Thr
785                 790                 795                 800
Gly Glu Val Val Thr Pro Pro Val Asp Asp Val Thr Lys Tyr Gly Pro
                805                 810                 815
Lys Val Gly Asn Pro Ile Thr Ser Thr Glu Glu Ile Pro Phe Asp Lys
            820                 825                 830
Lys Arg Val Phe Asn Pro Asp Leu Lys Pro Gly Glu Glu Arg Val Lys
            835                 840                 845
Gln Lys Gly Glu Pro Gly Thr Lys Thr Ile Thr Thr Pro Ile Leu Val
            850                 855                 860
Asn Pro Ile Thr Gly Glu Lys Val Gly Glu Gly Lys Ser Thr Glu Lys
865                 870                 875                 880
Val Thr Lys Gln Pro Val Asp Glu Ile Val Glu Tyr Gly Pro Thr Lys
                885                 890                 895
Ala Glu Pro Gly Lys Pro Ala Glu Pro Gly Lys Pro Ala Glu Pro Gly
                900                 905                 910
Lys Pro Ala Glu Pro Gly Thr Pro Ala Glu Pro Gly Lys Pro Ala Glu
            915                 920                 925
Pro Gly Thr Pro Ala Glu Pro Gly Lys Pro Ala Glu Pro Gly Lys Pro
            930                 935                 940
Ala Glu Pro Gly Lys Pro Ala Glu Pro Gly Thr Pro Ala Glu Pro Gly
945                 950                 955                 960
Thr Pro Ala Glu Pro Gly Lys Pro Ala Glu Pro Gly Thr Pro Ala Glu
                965                 970                 975
Pro Gly Lys Pro Ala Glu Pro Gly Thr Pro Ala Glu Pro Gly Lys Pro
            980                 985                 990
Ala Glu Pro Gly Thr Pro Ala Glu Pro Gly Lys Pro Ala Glu Ser Gly
            995                 1000                1005
Lys Pro Val Glu Pro Gly Lys Pro Val Glu Pro Gly Thr Pro Ala Gln
            1010                1015                1020
Ser Gly Ala Pro Glu Gln Pro Asn Arg Ser Met His Ser Thr Asp Asn
1025                1030                1035                1040
Lys Asn Gln Leu Pro Asp Thr Gly Glu Asn Arg Gln Ala Asn Glu Gly
                1045                1050                1055
Thr Leu Val Gly Ser Leu Leu Ala Ile Val Gly Ser Leu Phe Ile Phe
            1060                1065                1070
Gly Arg Arg Lys Lys Gly Asn Glu Lys
            1075                1080
```

```
<210> 4510
<211> 375
<212> PRT
<213> S.epidermidis


<400> 4510
Ile Gln Lys Gly Cys Thr Ile Met Ser His His Arg Ile Ile Ile Ile
1               5                   10                  15
Gly Ala Gly Ala Ala Gly Val Gly Met Ala Ile Thr Leu Gln Glu Phe
                20                  25                  30
Asn Ile Lys Asp Val Leu Ile Val Glu Lys Gly Thr Ile Gly His Ser
```

```
                35                        40                       45
Phe Lys His Trp Pro Leu Ser Thr Lys Thr Ile Thr Pro Ser Phe Thr
        50                        55                       60
Thr Asn Gly Phe Gly Met Pro Asn Met Asn Ala Ile Ala Lys Asp Thr
65                        70                       75                   80
Ser Pro Ala Phe Thr Phe Asn Glu Glu His Leu Ser Gly Lys Arg Tyr
                    85                        90                   95
Ala Glu Tyr Leu Ser Leu Val Ala Thr His Tyr Asn Leu Asn Val Lys
            100                       105                      110
Thr Asn Thr Asn Val Ser Arg Val Thr Tyr Ile Asp Gly Ile Tyr His
            115                       120                      125
Val Ser Thr Asp Tyr Gly Val Tyr Thr Ala Asp Tyr Ile Phe Ile Ala
        130                       135                      140
Thr Gly Asp Tyr Ser Phe Pro Tyr His Pro Phe Ser Tyr Gly Leu His
145                       150                      155                  160
Tyr Ser Glu Ile Gln Thr Phe Thr Gln Leu Lys Gly Asp Ala Phe Thr
                    165                       170                  175
Ile Ile Gly Gly Asn Glu Ser Ala Phe Asp Ala Ala Ile Asn Leu Ser
            180                       185                      190
Gln Thr Gly Ala Lys Ile Ser Ile Tyr Thr Ser Lys Thr Gly Leu Lys
            195                       200                      205
Lys Glu Asp Ala Asp Pro Ser Ile Arg Leu Ser Pro His Thr Gln Gln
        210                       215                      220
Arg Leu Gln Asn Ala Ile Gln Glu Gly Ala Leu Ile Glu Met His Val
225                       230                      235                  240
Gly Tyr Gln Ala Arg Lys Ile Thr Tyr Gln Asn His Ser Tyr Lys Ile
                    245                       250                  255
His Phe Asp Asn Gly His Ile Val His Ser His Thr Glu Pro Ile Ile
            260                       265                      270
Ala Thr Gly Phe Asp Val Thr Gln Asn Pro Leu Ile Glu Gln Leu Phe
            275                       280                      285
Gln Val Arg Gln Ser Glu Val Gln Leu Thr Glu Leu Asp Glu Ser Thr
        290                       295                      300
Lys Phe Pro Asn Val Phe Leu Ile Gly Ala Thr Val Arg His Gln Asn
305                       310                      315                  320
Ala Ile Leu Cys Tyr Ile Tyr Lys Phe Arg Ala Arg Phe Ala Val Leu
                    325                       330                  335
Ala Arg Ile Val Ser Leu Arg Glu Gly Leu Pro Glu Asp Thr Ser Leu
            340                       345                      350
Ile Gln Ser Tyr Arg Gln Lys Asn Met Phe Leu Asp Asp Tyr Ser Cys
            355                       360                      365
Cys Asp Val Asn Cys Thr Cys
        370                       375
```

```
<210> 4511
<211> 312
<212> PRT
<213> S.epidermidis

<400> 4511
Val Glu Arg Gly Ser Gln Lys Val Lys Thr Leu Met Ile Lys Ala Met
1                   5                        10                       15
Gly Thr Val Ile Arg Leu Ser Ile Glu His Gln His Pro Asp Thr Leu
            20                        25                       30
Leu Gln Glu Ala Glu Ile Lys Ile Arg Ala Trp Glu Ser Gln Phe Ser
        35                        40                       45
```

```
Ala Asn Asp Pro Lys Ser Asp Leu Met Asn Val Asn Gln His Ala Gly
    50                  55                  60
Ile Ala Pro Val Lys Val Ser Ser Glu Ile Phe Asn Met Ile Arg Tyr
65                  70                  75                  80
Gly Tyr Glu Thr Thr Leu Ser Ser Asn Phe Lys Met Asn Ile Leu Ile
                85                  90                  95
Gly Pro Leu Val Lys Leu Trp Lys Ile Gly Phe Lys Asp Ala Leu Lys
                100                 105                 110
Pro Lys Glu Val Asp Ile Gln Arg Ala Leu Leu Cys Met Asn Pro Glu
        115                 120                 125
Asn Leu Val Leu Asn Ser Lys Thr His Glu Val Phe Leu Thr Gln Ser
    130                 135                 140
Gly Met Glu Ile Asp Leu Gly Ala Ile Val Lys Gly Tyr Phe Ala Asp
145                 150                 155                 160
Gln Leu Gln Gln Tyr Phe Leu Ala His Gly Val Ser Ser Gly Ile Ile
                165                 170                 175
Asp Leu Gly Gly Asn Val Leu Thr Ile Gly Arg Gln Pro Glu Thr Leu
                180                 185                 190
Glu Lys Trp His Val Gly Val Arg Asn Pro Phe His Lys Asp Thr Leu
                195                 200                 205
Pro Leu Val Thr Leu Ser Val Glu His Gln Ser Val Val Thr Ser Gly
    210                 215                 220
Ile Tyr Glu Arg Tyr Phe Ile Gln Glu Asn Gln Leu Phe His His Ile
225                 230                 235                 240
Leu Asp Ser Thr Thr Gly Tyr Pro Val Asp Asn Asp Ile Ala Ser Val
                245                 250                 255
Thr Ile Ile Ser Asp His Gly Ile Asp Gly Glu Val Trp Ser Thr Ile
                260                 265                 270
Cys Ser Phe Gly Gln Ser Gln Lys Asn Ile Glu Leu Leu Asn Leu Ile
                275                 280                 285
Asp Gly Ile Glu Gly Ile Ile Val Thr Arg Asp Gly Ser Val Leu Met
290                 295                 300
Thr Ser Lys Met Gln Lys Tyr Leu
305                 310
```

<210> 4512
<211> 327
<212> PRT
<213> S.epidermidis

<400> 4512

```
Trp Asp Ile Met Lys Val Lys Leu Tyr Thr Leu Leu Leu Leu Leu Ile
1               5                   10                  15
Phe Leu Ile Ala Cys Ala Pro Thr Ser Thr Ser Gln Ser Pro His Pro
                20                  25                  30
Leu Arg Thr Leu Ile Val Tyr Ser Pro Tyr Pro Ser His Leu Ile Arg
                35                  40                  45
Pro Ile Leu Asn Asp Phe Glu Lys Arg Glu His Val Lys Val Glu Ile
    50                  55                  60
Lys His Gly Ser Thr Gln Val Leu Leu Ser Asn Ile His Lys Glu Ala
65                  70                  75                  80
Leu Ser Lys Arg Gly Asp Val Phe Val Gly Gly Val Leu Ser Glu Met
                85                  90                  95
Ile Asp His Gln Glu Asp Phe Val Pro Tyr His Asn Arg Ser Thr Leu
                100                 105                 110
Lys Gln Ile Glu Asp Tyr Arg Ser Asn Asn Pro Leu Val Thr Ser Phe
```

```
                  115                        120                        125
Leu Leu Met Pro Thr Val Ile Val Val Asn Thr Asp Leu Gln Gly Asp
        130                        135                        140
Met Thr Ile His Gly Tyr Lys Asp Leu Leu Gln Ser Ser Leu Lys Gly
145                        150                        155                        160
Arg Val Val Tyr Ser Asn Pro His Ser Thr Thr Thr Gly Tyr Gln His
                  165                        170                        175
Met Arg Ala Met Tyr His Met Arg His Gln Val Ser Asp Val His Gln
        180                        185                        190
Phe Gln His His Ala Val Gln Leu Ser Lys Ser Ser Gln Val Ile Glu
        195                        200                        205
Lys Val Ala Lys Gly Ala Tyr Tyr Ala Gly Leu Ser Tyr Glu Gln Asp
        210                        215                        220
Ala Arg Thr Trp Lys Gln Lys Gly Tyr Pro Ile Ser Ile Ile Tyr Pro
225                        230                        235                        240
Thr Glu Gly Thr Met Leu Asn Val Asp Gly Ile Ala Leu Val Asn Asn
                  245                        250                        255
Ala Gln Pro His Pro Lys Arg Lys Lys Leu Val Gln Tyr Leu Thr Ser
                  260                        265                        270
Arg Ser Val Gln Gln Arg Leu Ala Glu Glu Phe Asp Ala Lys Ser Ile
        275                        280                        285
Arg Lys Asp Val Thr Glu Thr Asn His Ser Ser Ile Glu Asn Leu Asp
        290                        295                        300
His Ile Pro Leu Ile Pro Gln Ser Arg Val Ser Asn Ile Pro His His
305                        310                        315                        320
Gln Phe Leu Glu Met Ile Gln
                  325
```

```
<210> 4513
<211> 258
<212> PRT
<213> S.epidermidis

<400> 4513
Ala Lys Ile Met Ala His Ile Thr Leu Asn Tyr Leu Ser Lys Thr Leu
1                   5                        10                        15
Gly Met His Gln Thr Ile Asn Val Ile Leu Pro Glu Asp Lys Ser Tyr
        20                        25                        30
Phe Asp Thr Asn Glu Asn Ala Lys Pro Leu Lys Thr Met Leu Leu Leu
        35                        40                        45
His Gly Leu Ser Ser Asp Thr Ser Ser Tyr Met Arg Tyr Thr Ser Ile
        50                        55                        60
Glu Arg Tyr Ala Asn Thr His Gln Leu Ala Val Val Met Pro Asn Ala
65                        70                        75                        80
Asp His Ser Phe Tyr Ser Asn Met Ala Tyr Gly His Ser Tyr Tyr Asp
                  85                        90                        95
Tyr Ile Leu Glu Val Tyr Asp Tyr Val His Gln Ile Leu Pro Leu Ser
                  100                        105                        110
Lys Lys Arg Glu Asp Asn Phe Ile Ala Gly His Ser Met Gly Gly Tyr
        115                        120                        125
Gly Ala Ile Lys Phe Ala Leu Thr Gln Ser Tyr Arg Phe Ser Lys Ala
        130                        135                        140
Ala Met Leu Ser Ala Pro Tyr Asp Val Ser Met Ile Gly Gln Tyr Gln
145                        150                        155                        160
Trp Tyr Asp Phe Thr Pro Glu Ala Ile Val Gly Asn Thr Gln His Val
                  165                        170                        175
```

```
Ala Gly Thr Ser Phe Asp Pro Tyr Tyr Leu Val Glu Gln Ala Ile Asp
            180                 185                 190
Asn Gly Gln Ala Leu Pro Gln Leu Tyr Ile Thr Cys Gly Thr Glu Asp
            195                 200                 205
Glu Leu Tyr Gln Gly Asn Ile Asp Phe Val Asn Tyr Leu Asp Glu Lys
        210                 215                 220
Gly Ile Pro Tyr Gln Phe Lys Lys Ala Pro Gly Asn His Asp Tyr Ala
225                 230                 235                 240
Phe Trp Asp Lys Ala Ile Glu Asp Val Ile Asp Arg Phe Thr Ser Ser
                245                 250                 255
His Ile
```

<210> 4514
<211> 130
<212> PRT
<213> S.epidermidis

<400> 4514
```
Leu Val Tyr Ile Ile Asn Ile Leu Ile Phe Lys Ile Leu Gly Asp Ala
1               5                   10                  15
Gln Met Leu Lys Ile Asn Phe Phe Asn Lys Glu Tyr Gly Val Leu Lys
            20                  25                  30
Ser Gln Asn Tyr Glu Arg Ile Ser Leu Glu Leu Leu Asn Lys His Tyr
            35                  40                  45
His Ile Thr Glu Asn Asp Phe Lys Asn Lys Asp Tyr Cys Leu Asp Lys
        50                  55                  60
Phe Asn Ser Lys Asp Thr Phe Ile Gly Asp Ile Ala His Thr Glu Lys
65                  70                  75                  80
Glu Leu Ile Ser Leu Ile Glu Asp Asn Ile Lys Asn Pro Lys Asn Met
                85                  90                  95
Glu His Gln Asn Leu Ser Ser Ile Phe Asp Tyr Thr Asp His His Asn
            100                 105                 110
Asn Gln Arg Val Tyr His Ser Ile Leu Asp Leu Ile Gln Asp Asn Thr
            115                 120                 125
Ser Ser
    130
```

<210> 4515
<211> 257
<212> PRT
<213> S.epidermidis

<400> 4515
```
Ser Pro Tyr Ile His Gly Tyr Tyr Leu Tyr Gly Ser Asp Arg Tyr Tyr
1               5                   10                  15
Ile Phe Met Asp Ser Ile Val Lys Glu Ser Tyr Ser Met Ile Asp Ile
            20                  25                  30
Gln Asn Val Ser Lys Ser Tyr Lys Lys Lys His Ile Phe Asp Ser Leu
            35                  40                  45
Asp Met Gln Phe Gln Asn His Lys Ile Thr Ile Leu Leu Gly Glu Asn
        50                  55                  60
Gly Ala Gly Lys Ser Thr Leu Leu Arg Leu Ile Ala Gly Ile Glu Asn
65                  70                  75                  80
Ala Asp Glu Gly Arg Ile Gln Tyr Phe Asn Gln Tyr Leu Ser Arg Arg
                85                  90                  95
```

```
Arg Ile Arg His Ile Val Gly Tyr Val Pro Gln Asp Ile Ala Leu Phe
        100                 105                 110
Glu His Met Thr Val Met Glu Asn Ile Glu Phe Phe Lys Ser Leu Cys
        115                 120                 125
Glu Asn Pro Ile Ser Asp Glu Thr Leu His Ser Tyr Leu Ser Gln Leu
        130                 135                 140
Asn Phe Thr Asp Thr Lys Val Lys Val Ser Asn Leu Ser Gly Gly Asn
145                 150                 155                 160
Lys Arg Lys Val Asn Ile Met Ile Gly Leu Leu Ser Arg Pro Lys Ile
                165                 170                 175
Leu Ile Leu Asp Glu Pro Thr Glu Asp Ile Asp Leu Glu Ser Arg Tyr
                180                 185                 190
Asp Ile His Asn Leu Leu Gln Gln Met Thr Asp Gln Cys Leu Ile Ile
        195                 200                 205
Met Thr Thr His His Leu Asp Glu Val Glu Ala Leu Ala Asp Asp Ile
        210                 215                 220
Lys Val Ile Gly Gln Asn Pro Phe Tyr His Asp Ile Leu Glu Asn Lys
225                 230                 235                 240
Gly Trp Ser Phe Lys Lys Tyr Ala Asn Ala Leu Ala Asp Asn Thr Lys
                245                 250                 255
Ser
```

<210> 4516
<211> 80
<212> PRT
<213> S.epidermidis

<400> 4516
```
Thr Tyr His Ile Ile Tyr Val Pro Leu Ser Thr Ser Val Asn Tyr Glu
1               5               10              15
Lys Ile Leu Ser Ser Ser Ile Pro Leu Leu Asn Thr Phe Leu Phe Thr
                20              25              30
Phe Lys Asn Pro Arg Lys Glu Arg Thr Asn Ser Pro Ser Leu Phe Cys
        35              40              45
Val Val Val Leu Leu Asn Phe Ile Ser Leu Thr Ile Asn Ile Leu Ile
        50              55              60
Thr Lys Met Met Tyr Leu Lys Thr Ile Ile Ile Leu Lys Tyr Asn Asn
65              70              75              80
```

<210> 4517
<211> 72
<212> PRT
<213> S.epidermidis

<400> 4517
```
Ile Ile Asn Ile Glu Ala Thr Gln Tyr Glu Gly Arg Ala Val Ser Arg
1               5               10              15
Lys Ala Ile Glu Arg Ile Ala Arg Ser Gly Asn Leu Pro Leu Val Lys
                20              25              30
Ala Leu Thr Met Pro Ser Thr Thr Asp Val Ile Ile Thr Thr Thr Leu
        35              40              45
Glu Ile Lys Val Ser Phe Asn Val Phe Ile Asn Ala Gly Pro Ile Arg
        50              55              60
Ser Asp Thr Gly Ser Pro Val Ile
65              70
```

<210> 4518
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4518
Tyr Asn Asn Ile Asn Glu Val Gln Lys Gly Gly Gly Arg Leu Ile Glu
1   5   10   15
Lys Val Phe Lys Arg Ile Tyr Phe Ile Phe Ser His Cys Asp Ala Arg
            20   25   30
Ile Cys Arg Gly Ile Gly Ile Gln Ser Leu
        35   40

<210> 4519
<211> 131
<212> PRT
<213> S.epidermidis

<400> 4519
Glu Ala Asn Ile Ser Leu Lys Ile Arg Cys Ile Ser Met Lys Arg Leu
1   5   10   15
Ile Phe Ile Val Val Ile Leu Phe Ile Gln Ala Cys Ser Tyr Val Val
            20   25   30
Ile Asn Phe Phe Phe Phe Asp Met Trp Val Ile His Ser Ser Glu Gln
        35   40   45
Gln Leu Asn Gln Ser Ile Gln His His Asp Thr Lys Gln Leu His Lys
        50   55   60
Ile Ala Lys Asp Lys Gln Thr Tyr Gln Phe Leu Lys Thr Ile Lys Lys
65   70   75   80
Ala Asp Phe Glu Asn Ala Thr Asp Asn Gln Gly Gly Gly Pro Ile Gly
                85   90   95
Tyr Tyr Arg Leu Asp Ile Asn Lys Lys Pro Val Gly Leu Thr Ile Asn
            100   105   110
Ile Lys Tyr Asn Phe Leu Pro Glu Lys Thr Thr Ile Lys Ser Ile Lys
            115   120   125
Leu Tyr Gln
    130

<210> 4520
<211> 1017
<212> PRT
<213> S.epidermidis

<400> 4520
Cys Glu Asn Ile His Lys Lys Leu Gly Gly Phe Ala Met Ser Lys Glu
1   5   10   15
Ile Phe Asp Thr Phe Lys Phe Lys Cys Gly Ala Glu Leu Lys Asn Arg
            20   25   30
Val Leu Met Ala Pro Met Thr Ile Gln Ala Gly Tyr Phe Asp Gly Ser
            35   40   45
Val Thr Ser Glu Met Ile Asp Tyr Tyr Gln Phe Arg Ala Gly Asp Ala
            50   55   60
Ser Ala Ile Ile Val Glu Ser Cys Phe Val Glu Asn His Gly Arg Gly
65   70   75   80
Phe Pro Gly Ala Ile Gly Ile Asp Asn Asp Asp Lys Ile Pro Gly Leu

```
                    85                      90                      95
Lys Arg Leu Ala Glu Ala Ile Gln Ala Lys Gly Ser Lys Ala Ile Leu
                100                     105                     110
Gln Leu Tyr His Ala Gly Arg Met Ala Asn Pro Lys Phe Asn Glu Gly
            115                     120                     125
Glu Gln Pro Ile Ser Ala Ser Pro Ile Ala Ala Leu Arg Pro Asp Ala
        130                     135                     140
Val Pro Pro Arg Glu Met Thr His Ala Gln Ile Asn Gln Met Ile Asp
145                     150                     155                     160
Asp Phe Gly Glu Ala Thr Arg Arg Ala Ile Glu Ala Gly Phe Asp Gly
                165                     170                     175
Val Glu Ile His Gly Ala Asn Thr Tyr Leu Leu Gln Gln Phe Phe Ser
            180                     185                     190
Pro His Ser Asn Arg Arg Gln Asp Ser Trp Gly Gly Ser Arg Glu Lys
        195                     200                     205
Arg Thr Arg Phe Pro Ile Glu Val Leu Thr Lys Val Gln His Val Val
    210                     215                     220
Ala Glu Lys Glu Ala Ser His Phe Ile Ile Gly Tyr Arg Phe Ser Pro
225                     230                     235                     240
Glu Glu Ile Glu Glu Pro Gly Ile Arg Phe Glu Asp Thr Met Phe Leu
                245                     250                     255
Leu Asn Thr Leu Ala Glu Tyr Glu Pro Asp Tyr Phe His Ile Ser Ala
            260                     265                     270
Asn Ser Tyr Gln Arg Thr Ser Ile Val Asn Gln Glu Asp Thr Glu Pro
        275                     280                     285
Leu Ile Asn Lys Tyr Ile Lys Met Gln Ser Ala Gln Leu Ala Lys Ile
        290                     295                     300
Pro Leu Ile Gly Val Gly Ser Ile Ala Gln Arg Gln Asp Ala Glu His
305                     310                     315                     320
Ala Leu Glu Leu Gly Tyr Asp Leu Leu Ser Val Gly Lys Ala Tyr Leu
            325                     330                     335
Val Glu Pro Gln Trp Thr Asp Lys Ile Ser Gln Asn Glu Glu Val Glu
        340                     345                     350
Gln Phe Val Asp Ile His Asp Gln Lys Val Leu His Ile Pro Ser Pro
    355                     360                     365
Leu Trp Lys Val Met Asp Phe Met Ile Leu Asp Lys Glu Glu Glu His
    370                     375                     380
Arg Lys Tyr Glu Lys Leu Lys Ala Leu Gln Asn Lys Lys Val Lys Phe
385                     390                     395                     400
Asn Lys Gly Thr Tyr His Val Tyr Ala Lys Gly His Asn Gly Asn Leu
            405                     410                     415
Pro Met Lys Val Gln Leu Ser Glu Asp Lys Ile Val Ser Ile Glu Val
        420                     425                     430
Asp Asp Ser Gly Glu Ser Glu Gly Ile Ala Asn Pro Val Phe Glu Arg
        435                     440                     445
Leu Pro Gln Asp Ile Ile Asn Gly Gln Thr Leu Asn Val Asp Val Ile
    450                     455                     460
Ser Gly Ala Thr Val Thr Ser Glu Gly Ile Val Gln Gly Ile Ala Asp
465                     470                     475                     480
Ala Ile Glu Gln Ala Gly Glu Asp Pro Asp Ile Leu Arg Ala Arg Pro
            485                     490                     495
Lys Pro Val Val Gln Trp Ser Asp Glu Val Val Glu Glu Thr Thr Asp
        500                     505                     510
Val Val Val Ile Gly Thr Gly Gly Ala Gly Leu Ser Ala Ala Ala Thr
        515                     520                     525
Val Leu Asp Glu Gly Lys Glu Val Ile Met Leu Glu Lys Phe Ala Ala
```

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     530                      535                      540
Ile Gly Gly Asn Thr Ile Arg Thr Gly Gly Gln Val Asn Ala Ala Glu
545                      550                      555                      560
Pro Lys Trp Gln Asn Ala Phe Pro Ala Leu Ala Gly Glu Lys Glu Thr
                    565                      570                      575
Leu Ile Gln Leu Leu Asn His Asp Glu Asn Asp Ile Asp Glu Ala Tyr
                    580                      585                      590
Ile Glu Asp Phe Asn Thr Leu Lys Arg Gln Ile Lys Asp Tyr Leu Glu
                    595                      600                      605
Asn Ser Ser Asn Glu Asp Glu Tyr Leu Phe Asp Ser Val Glu Leu His
               610                      615                      620
Arg Ile Gln Thr Tyr Leu Gly Gly Lys Arg Lys Asp Arg Asn Asn Val
625                      630                      635                      640
Glu Ile Ser Gly Asp Tyr Asp Leu Val Lys Thr Leu Thr Asp Asn Val
                    645                      650                      655
Leu Glu Ser Val Tyr Trp Leu Lys Asp Lys Gly Val His Phe Asp Arg
                    660                      665                      670
Ser Phe Val Asp Met Pro Val Gly Ala Leu Trp Arg Arg Gly His Lys
                    675                      680                      685
Pro Met Lys Ala Gln Gly Leu Glu Tyr Ile Glu Asn Leu Gly Asp Tyr
               690                      695                      700
Val Lys His Asn His Gly Arg Ile Phe Thr Glu Thr Thr Ala Glu Lys
705                      710                      715                      720
Leu Ile Lys Glu Gly Asn Gln Val Val Gly Ile Glu Ala Arg Lys Ala
                    725                      730                      735
Asn Gly Ala Lys Val Lys Ile His Thr Arg His Gly Val Val Leu Ala
                    740                      745                      750
Thr Gly Gly Phe Gly Ala Asn Thr Lys Met Leu Gln Gln Tyr Asn Thr
               755                      760                      765
Tyr Trp Asp Asn Ile Pro Asp Asp Ile Lys Thr Thr Asn Ser Pro Ala
     770                      775                      780
Ile Thr Gly Asp Gly Ile Arg Leu Gly Val Gln Ala Gly Ala Asp Ile
785                      790                      795                      800
Val Gly Met Gly Phe Ser Gln Met Met Pro Ile Ser Asp Pro Lys Thr
                    805                      810                      815
Gly Ala Leu Phe Thr Gly Leu Ile Val Thr Pro Ser Asn Phe Val Phe
                    820                      825                      830
Val Asn Lys Glu Gly Gln Arg Phe Val Asn Glu Phe Glu Ser Arg Asp
               835                      840                      845
Val Leu Ser Lys Ala Ala Leu Glu Gln Lys Asp Gly Ile Phe Tyr Ile
          850                      855                      860
Ile Ala Asp Ala Asn Ile Lys Ala Leu Ala Met Asn Thr Thr Glu Asp
865                      870                      875                      880
Lys Ile Asn Gln Glu Leu Glu Asp Gly Thr Leu Val Lys Ala Asp Thr
               885                      890                      895
Leu Glu Ala Leu Ala Gln Lys Leu Asn Ile Asp Thr Thr Thr Phe Val
          900                      905                      910
Asn Thr Ile Glu Arg Tyr Asn Thr Phe Val Glu Gln Gly Gln Asp Glu
          915                      920                      925
Asp Phe Asn Lys Asn Ala Phe Asp Leu Lys Ile Glu Lys Ala Pro Phe
     930                      935                      940
Tyr Ala Thr Pro Arg Lys Pro Ala Ile His His Thr Met Gly Gly Leu
945                      950                      955                      960
Lys Ile Asn Thr His Ala Gln Val Ile Asp Val Glu Gly His Ile Ile
                    965                      970                      975
Glu Gly Leu Tyr Ala Ala Gly Glu Val Ala Gly Gly Ile His Ala Gly
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                980                    985                    990
Asn Arg Leu Gly Gly Asn Ala Leu Ala Asp Ile Phe Thr Phe Gly Arg
        995                    1000                   1005
Ile Ala Gly Gln Ser Ala Val Thr Lys
    1010                   1015
```

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<210> 4521
<211> 406
<212> PRT
<213> S.epidermidis
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```
<400> 4521
Val Cys Leu Ile Lys Lys Leu Lys Lys Trp Leu Lys Phe Ser Thr Lys
1               5                   10                  15
Pro Tyr Ile Lys His Trp Val Arg Ser Lys Arg Gly Phe Met Asp Ile
            20                  25                  30
Lys Ala Gln Leu Lys Gln Ile Gln Asp Lys Gly Leu Tyr Arg Glu Leu
        35                  40                  45
Gln Pro Ile Gln Ser Val Glu Lys Gln Tyr Ile Tyr Ile Asn Asp Gln
    50                  55                  60
Ser Tyr Ile Asn Phe Thr Ser Asn Asp Tyr Leu Gly Ile Gly Gln Leu
65                  70                  75                  80
Glu Tyr Gln Pro Gln Asn Phe Leu Asp Phe Ile Lys Thr Tyr Ser Ile
            85                  90                  95
His Leu Ser Ser Ser Arg Leu Val Ser Gly Asn Ser Val Val Tyr Gln
            100                 105                 110
Gln Leu Glu Gln Ala Ile Ser Glu His Phe Asn Phe Glu Asp Ala Leu
        115                 120                 125
Ile Phe Asn Ser Gly Tyr Asp Ala Asn Leu Ala Val Phe Asn Ile Phe
    130                 135                 140
Lys Asn Asn Asn Val Val Ile Phe Ser Asp Gln Gln Asn His Ala Ser
145                 150                 155                 160
Ile Ile Asp Gly Ile Lys Leu Ser Gly Leu Ser Lys Val Ile Tyr Gln
            165                 170                 175
His Leu Asn Tyr Asp Asp Leu Glu Ser His Leu Ala Arg His Thr Asn
            180                 185                 190
Pro Asp Val Gln Lys Val Ile Val Ser Asp Ser Val Phe Ser Thr Asn
        195                 200                 205
Gly Thr Lys Ala Asp Ile Asn Arg Leu Val His Leu Lys Gln Arg Tyr
    210                 215                 220
Asn Ala Ile Leu Ile Ile Asp Ala Ser His Ser Leu Gly Leu Asn Leu
225                 230                 235                 240
Phe Glu Tyr His Ala Asp Ile Asp Ile Val Thr Ser Ser Leu Ser Lys
            245                 250                 255
Ala Trp Gly Ala His Gly Gly Leu Ile Leu Ser Ser Lys Asp Ile Lys
            260                 265                 270
Asp Leu Ile Ile Asn Lys Gly Arg Ser Leu Ile Tyr Ser Ser Ser Leu
    275                 280                 285
Pro Ser Tyr His Leu Tyr Phe Ile Gln Val Ser Leu Gln His Val Ile
    290                 295                 300
Glu Asp Thr Tyr Arg Arg Glu Lys Leu Asn Ala Leu Ser Glu Tyr Phe
305                 310                 315                 320
Asn His Gln Phe Met Glu Leu Phe Pro Asn Gln Pro Leu Ser Asn Thr
            325                 330                 335
Pro Ile Lys Asn Ile Val Cys Asp Ser Leu Ala Ser Ala Gln Ala Gln
        340                 345                 350
```

```
Tyr Asp Met Leu Phe Glu His Gly Ile Phe Val Ser Tyr Leu Arg Tyr
        355                 360                 365
Pro Thr Val Ser Gln Pro Thr Leu Arg Ile Ser Leu Ser Tyr Phe His
        370                 375                 380
Asp Thr Asp Asp Ile Asn Arg Leu Phe Asn Val Met Lys Gln Tyr Asp
385                     390                 395                 400
Glu Gly Asp Ser Tyr Val
                405


<210> 4522
<211> 46
<212> PRT
<213> S.epidermidis


<400> 4522
Pro Ile Ile Ile Lys Ile Lys His Pro Ser Leu Tyr Asp Glu Gly Cys
1               5                   10                  15
Phe Met Asn Phe His Ile Lys Ile Lys Ser Ala Asp Tyr Ser Phe Leu
            20                  25                  30
Phe Asn Ser Leu Ser Ser Phe Thr Ser Val Gly Phe Gly Ile
            35                  40                  45


<210> 4523
<211> 106
<212> PRT
<213> S.epidermidis


<400> 4523
Cys Asp Phe Phe Lys Lys Met Cys Arg Lys Ile Leu Val Tyr Lys His
1               5                   10                  15
Thr Ile Thr Val Ile Lys Gly Phe Phe Leu His Thr Ser His Asn Phe
            20                  25                  30
Phe Asn Thr Pro Leu Leu Ser Ile Val Ile Glu Phe Asn Tyr Ile Pro
            35                  40                  45
Phe Asp Ile Gly Lys Leu Asn Lys Thr Phe Gln Thr Tyr Lys Gln Leu
        50                  55                  60
Asn Ile Pro Leu Leu Phe Lys Arg Ile Leu Ser Asn Glu Leu Tyr Thr
65                      70                  75                  80
Ile Ile Lys Val Leu Gln Lys Phe Glu Ser Leu Asn Phe Thr Tyr Phe
                85                  90                  95
Ile Tyr Ile Ala His Phe Ile Ile Met Leu
            100                 105


<210> 4524
<211> 294
<212> PRT
<213> S.epidermidis


<400> 4524
Gly Glu Ser Met Asn Lys Leu Ser Lys Tyr Ile Ala Ile Ala Thr Leu
1               5                   10                  15
Ala Ser Thr Val Thr Ile Ser Ala Pro Ile His Thr Tyr Ala Cys Glu
            20                  25                  30
Ser His Thr Lys Asp Asn His Asn Gln Thr Thr Gln His Gln Asn Asp
            35                  40                  45
Pro Asn Leu Gly Glu Gln Asn Val Met Ala Val Ser Trp Tyr Gln Asn
```

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                50                      55                      60
      Ser Ala Glu Ala Lys Ala Leu Tyr Leu Gln Gly Tyr Asn Thr Ala Lys
      65                      70                      75                      80
      Tyr Gln Leu Asp Glu His Ile Lys Lys Asn Lys Gly Lys Lys Lys Leu
                              85                      90                      95
      Ala Ile Ala Leu Asp Leu Asp Glu Thr Val Leu Asp Asn Ser Pro Tyr
                      100                     105                     110
      Gln Gly Tyr Ala Ser Met His Asp Thr Ser Phe Pro Glu Gly Trp His
                      115                     120                     125
      Glu Trp Val Ala Ala Ala Lys Ala Lys Pro Val Tyr Gly Ala Lys Ser
                      130                     135                     140
      Phe Leu Lys Tyr Ala Asp Lys Lys Gly Ile Asp Ile Tyr Tyr Ile Ser
      145                     150                     155                     160
      Asp Arg Asp Lys Glu Lys Asp Phe Lys Ala Thr Lys Glu Asn Leu Lys
                              165                     170                     175
      Asn Ile Gly Leu Pro Gln Ala Lys Asp Asn His Ile Leu Leu Lys Gly
                      180                     185                     190
      Lys Asn Asp Lys Ser Lys Ala Ser Arg Arg Gln Gln Val Glu Lys Asn
                      195                     200                     205
      His Lys Leu Val Met Leu Phe Gly Asp Asn Leu Leu Asp Phe Thr Asp
                      210                     215                     220
      Pro Lys Lys Ser Thr Ala Lys Glu Arg Glu Lys Leu Val Lys Lys His
      225                     230                     235                     240
      Ala Lys Asp Phe Gly Lys Lys Tyr Ile Ile Phe Pro Asn Pro Met Tyr
                      245                     250                     255
      Gly Ser Trp Glu Ser Thr Leu Tyr His Asn Gln Tyr Glu Ile Ser Lys
                      260                     265                     270
      Asn Glu Lys Asp Glu Leu Arg Lys Ala Ser Ile Lys Gln Phe Asn Pro
                      275                     280                     285
      Lys Thr Gly Glu Val Lys
                      290


      <210> 4525
      <211> 454
      <212> PRT
      <213> S.epidermidis

      <400> 4525
      Glu Asp Pro Met Ala Asn Thr Arg Glu Leu Asn His Lys Asp Ala Gln
      1               5                       10                      15
      Tyr Val Trp His Pro Phe Thr Gln Met Gly Val Tyr Ala Lys Asn Asp
                      20                      25                      30
      Asn Ile Ile Ile Glu Lys Gly Arg Gly Ser Tyr Leu Tyr Asp Thr Glu
                      35                      40                      45
      Gly Asn Lys Tyr Leu Asp Gly Tyr Ala Ser Leu Trp Val Asn Val His
                      50                      55                      60
      Gly His Gln His Lys Lys Leu Asn Lys Ala Ile His Lys Gln Leu Asp
      65                      70                      75                      80
      Lys Ile Ala His Ser Thr Leu Leu Gly Ser Ser Asn Ile Pro Ser Ile
                              85                      90                      95
      Glu Leu Ala Glu Gln Leu Val Lys Leu Thr Pro Asp Arg Leu Gln Lys
                      100                     105                     110
      Val Phe Tyr Ser Asp Thr Gly Ser Ala Ser Val Glu Ile Ala Ile Lys
                      115                     120                     125
      Met Ala Tyr Gln Tyr Trp Lys Asn Ile Asp Ala Lys Arg Tyr Ala Lys
                      130                     135                     140
```

```
Lys Asn Lys Phe Leu Thr Leu His His Gly Tyr His Gly Asp Thr Ile
145                 150                 155                 160
Gly Ser Val Ser Val Gly Gly Ile Asp Ser Phe His Lys Ile Phe Lys
                165                 170                 175
Asp Leu Ile Phe Glu Asn Ile Gln Ile Glu Thr Pro Cys Leu Tyr Lys
                180                 185                 190
Ser Lys Tyr Arg Asn Glu Ala Glu Met Leu Asn Ser Ile Leu Asn Gln
                195                 200                 205
Ile Glu Asn Ile Leu Ser Glu Arg Asn Asp Glu Ile Val Gly Phe Ile
        210                 215                 220
Leu Glu Pro Leu Ile Gln Gly Ala Thr Gly Leu Phe Val His Pro His
225                 230                 235                 240
Gly Phe Leu Lys Ala Val Glu Gln Leu Cys Arg Lys Tyr Asp Val Leu
                245                 250                 255
Leu Ile Cys Asp Glu Val Ala Val Gly Phe Gly Arg Thr Gly Glu Met
                260                 265                 270
Phe Ala Cys Asn His Glu Asp Val Gln Pro Asp Ile Met Cys Leu Gly
                275                 280                 285
Lys Ala Ile Thr Gly Gly Tyr Leu Pro Leu Ala Ala Thr Leu Thr Ser
        290                 295                 300
Gln Lys Ile Tyr Asp Ala Phe Leu Ser Gln Ser His Gly Lys Asn Thr
305                 310                 315                 320
Phe Phe His Gly His Thr Tyr Thr Gly Asn Gln Leu Val Cys Ser Val
                325                 330                 335
Ala Leu Glu Asn Ile Asn Leu Phe Lys Lys Lys His Leu Ile Gly His
                340                 345                 350
Ile Gln Lys Thr Ser Gln Thr Leu Lys Gln Arg Leu Glu Ala Leu Gln
        355                 360                 365
Pro His Lys Asn Ile Gly Asp Ile Lys Gly Arg Gly Leu Met Tyr Gly
        370                 375                 380
Val Glu Leu Val Glu Asn Lys Ser Thr Gln Thr Pro Leu Asp Ile Pro
385                 390                 395                 400
Thr Val Glu Leu Ile Ile Arg Arg Cys Lys Glu Asn Gly Leu Met Ile
                405                 410                 415
Arg Asn Leu Glu Asn Val Ile Thr Phe Val Pro Ile Leu Ser Met Ser
                420                 425                 430
Asn Lys Glu Ile Lys Lys Met Val Lys Ile Phe Asn Lys Ala Leu His
        435                 440                 445
Gln Thr Leu Gly Lys Lys
        450
```

<210> 4526
<211> 195
<212> PRT
<213> S.epidermidis

<400> 4526
```
Ile Ile Thr Ile Ile Tyr Tyr Leu Glu Phe Asp Lys Glu Gly Asp Glu
1               5                   10                  15
Met Pro Arg Ile Ser Lys Arg Gln Leu Ile Leu Glu Ser Ala Ala Ala
                20                  25                  30
Ile Ile Asn Glu Lys Gly Ala Asp Tyr Leu Thr Leu Asp Ala Val Ala
        35                  40                  45
Gln Arg Ala Gly Ile Ser Lys Gly Gly Leu Phe Tyr His Phe Lys Ser
        50                  55                  60
Lys Asp Glu Leu Ile Lys Glu Leu Val Asn Tyr Ala Asn Asn Leu Tyr
```

```
65                    70                    75                    80
Arg Glu Asn Val Asn Gln His Ile Gly Asn Glu Lys Asn Lys Lys Gly
                    85                    90                    95
Gln Trp Leu Asn Ala Phe Ile Glu Ala Thr Arg Ala His Arg Thr Asp
                    100                   105                   110
Asn Ala Pro Ile Thr Ser Gly Met Leu Ala Ala Gln Gly Thr Asn Arg
                    115                   120                   125
Ser Leu Leu Ser Pro Leu Lys Thr Ser Tyr Gln Glu Trp Gln Tyr Gln
                    130                   135                   140
Ile Thr His Asp Gly Leu Asp Glu Val Asp Ala Thr Ile Ile Arg Leu
145                   150                   155                   160
Ala Val Asp Gly Leu Trp Leu Ser Glu Ile Phe Gly Ile Ser Ala Ile
                    165                   170                   175
Asp Glu Glu Met Arg Glu Lys Val Ile Glu Arg Leu Lys Met Gln Ile
                    180                   185                   190
Glu Lys Lys
         195
```

<210> 4527
<211> 271
<212> PRT
<213> S.epidermidis

<400> 4527
```
Met Tyr Thr Ile Ile Glu Arg Cys Glu Lys Met Lys Tyr Tyr Gly Lys
1                   5                     10                    15
Cys Ile Ser Tyr Ile Ser Ile Leu Ile Leu Thr Phe Phe Ile Gly Gly
                    20                    25                    30
Cys Gly Phe Met Asn Lys Glu Asn Asn Lys Glu Ala Glu Ile Lys Glu
                    35                    40                    45
Asn Phe Asn Lys Thr Leu Ser Met Tyr Pro Ile Lys Asn Leu Glu Asp
         50                   55                    60
Leu Tyr Asp Lys Glu Gly Tyr Arg Asp Glu Glu Phe Glu Lys Glu Asp
65                   70                    75                    80
Lys Gly Thr Trp Ile Ile Asn Ser Glu Met Asn Ile Gln Lys Lys Gly
                    85                    90                    95
Gln Ala Met Lys Ser Arg Gly Met Val Leu Tyr Met Asn Arg Asn Thr
                    100                   105                   110
Arg Lys Thr Thr Gly His Phe Tyr Thr Asn Ile Ile Thr Glu Asp Lys
         115                  120                   125
Lys Gly Arg Val His Ser Lys Asp Lys Glu Tyr Pro Val Arg Leu Lys
         130                  135                   140
Asn Asn Lys Ile Glu Pro Thr Lys Ser Ile Ala Asp Glu Lys Leu Lys
145                  150                   155                   160
Asn Glu Ile Lys Asn Phe Gln Phe Phe Ser Gln Tyr Gly Asn Phe Lys
                    165                   170                   175
Asn Leu Lys Asp Tyr Lys Asn Gly Asn Val Ser Tyr Asn Pro Asn Val
                    180                   185                   190
Pro Ser Tyr Ser Ala Glu Tyr Gln Leu Ser Asn Glu Asp Asp Asn Val
         195                  200                   205
Lys Gln Leu Arg Lys Arg Tyr Asp Ile Pro Ile Lys Arg Ala Pro Lys
         210                  215                   220
Leu Ile Leu Lys Gly Asp Gly Asp Leu Lys Gly Ser Ser Ile Gly Tyr
225                  230                   235                   240
Lys Asp Ile Glu Phe Ser Phe Val Asp Asn Lys Glu Glu Ser Val Tyr
                    245                   250                   255
```

Phe Val Asp Ser Leu Glu Phe Asn Pro Ser Asp Val Asn Asn Glu
                260   265   270

<210> 4528
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4528
Met Phe Thr Ile Ile Ser Asn Ile Asn Gln Arg Ile Asn Phe Thr Leu
1   5   10   15
Leu Asn Tyr Ala Ser Leu Asn Leu Phe Asn Lys Lys Arg Val Glu Gln
            20   25   30
Asn Pro Tyr Arg Ile Leu Tyr Ser Thr Leu Thr Lys Leu Thr Arg Val
            35   40   45
Asp Ser Leu
    50

<210> 4529
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4529
Val Ile Gln Met Asn His Phe Gly Lys Leu His Arg Ile Ser Leu Ile
1   5   10   15
Leu Asn Ile Met Phe Leu Ile Leu Met Pro Lys Ile Tyr Ser Phe Asp
            20   25   30
Asn Ile Tyr Leu Ser Ile Ile Trp Thr Leu Leu Gly Ile Ala Asn Ala
            35   40   45
Val Tyr Leu Leu Ile Lys Gln Lys Gln Glu Asn Thr Ile Lys Arg Lys
    50   55   60

<210> 4530
<211> 325
<212> PRT
<213> S.epidermidis

<400> 4530
Arg Arg Gln Ile Met Lys Phe Ala Val Val Gly Thr Gly Val Ile Gly
1   5   10   15
Ser Gly Trp Ile Thr Arg Met Leu Ala His Gly His Glu Val Ile Ala
            20   25   30
Thr Asp Pro Ser Glu Gly Ala Tyr Glu Arg Met Leu Thr Gln Val Lys
            35   40   45
Gln Asn Trp Pro Tyr Ala Glu Gln Met Gly Leu Ala Glu Asn Ala Ser
    50   55   60
Ile Gln Asn Leu Thr Phe Thr Pro His Leu Glu Glu Ala Val Lys Asp
65   70   75   80
Ala Asp His Ile Gln Glu Asn Val Pro Glu Val Glu Glu Ile Lys Asp
            85   90   95
Ala Val Leu Lys Glu Ile Asp Phe Tyr Ala Lys Pro Glu Ala Thr Ile
            100   105   110
Gly Ser Ser Thr Ser Gly Ile Met Pro Ser Glu Leu Gln Ala Asn Leu
            115   120   125
Ser His Pro Glu Arg Leu Val Val Ala His Pro Phe His Pro Val Tyr

```
      130                 135                 140
Ile Leu Pro Leu Val Glu Ile Val Pro Gly Lys Gln Thr Ser Glu Glu
145                 150                 155                 160
Thr Thr Val Lys Ala Glu Gln Ile Tyr Glu Ser Ile Gly Met Asp Val
                165                 170                 175
Leu His Val Arg His Glu Ile Glu Gly His Ile Ala Asp Arg Leu Met
            180                 185                 190
Glu Ala Leu Trp Arg Glu Ser Leu His Ile Val Asn Asp Gly Ile Ala
            195                 200                 205
Thr Thr Glu Glu Val Asp Lys Ala Phe Thr His Ala Ala Gly Leu Arg
        210                 215                 220
Tyr Ala Gln Tyr Gly Pro Phe Met Thr Phe His Leu Ala Gly Gly Glu
225                 230                 235                 240
Gly Gly Met Arg His Met Leu Lys Gln Phe Gly Pro Ala Leu Lys Lys
            245                 250                 255
Pro Trp Thr Lys Leu Ile Ala Pro Glu Leu Thr Asp Asp Leu Tyr His
            260                 265                 270
Lys Val Val Ser Gly Ser Glu Ala Ser Ser Gln Gly Tyr Thr Met Ser
        275                 280                 285
Glu Leu Asp Gln Lys Arg Asn Glu Phe Leu Ile Lys Val Lys Glu Leu
        290                 295                 300
Ala Glu Gln Tyr Trp Pro Ser Asp Ser Lys Ala Met Lys Lys Ser Asn
305                 310                 315                 320
Gly Ala Glu Leu Gln
                325


<210> 4531
<211> 418
<212> PRT
<213> S.epidermidis


<400> 4531
Lys Val Lys Ile Ile Thr Lys Asn Glu Glu Asp Cys Glu Met Thr Val
1               5                   10                  15
Leu Ser Glu Gln Asp Lys Ile Arg Leu Leu Ala Asp Ile Val Lys Ile
            20                  25                  30
Gln Thr Glu Asn Asp His Glu Ile Glu Val Cys Glu Tyr Leu Lys Asp
        35                  40                  45
Leu Leu Ser Gln Tyr Asp Ile Asp Ser Lys Ile Val Lys Val Asn Asp
        50                  55                  60
Ser Arg Ala Asn Leu Val Ala Glu Ile Gly Ser Gly Ala Pro Val Leu
65                  70                  75                  80
Ala Ile Ser Gly His Met Asp Val Val Asp Ala Gly Asp His Asp Asp
                85                  90                  95
Trp Thr Phe Pro Pro Phe Glu Leu Thr Asp Lys Asp Gly Lys Leu Phe
            100                 105                 110
Gly Arg Gly Thr Thr Asp Met Lys Gly Gly Leu Met Ala Met Val Ile
        115                 120                 125
Ala Met Ile Glu Leu Lys Gln Ser Asn Ala Leu Lys Gln Gly Thr Ile
        130                 135                 140
Arg Leu Leu Ala Thr Thr Gly Glu Glu Thr Glu Gln Tyr Gly Ala Gln
145                 150                 155                 160
Leu Leu Ala Asp Glu Gly Tyr Leu Asp Asp Val Ser Gly Leu Ile Ile
                165                 170                 175
Gly Glu Pro Thr Ser Asn Ile Ala Tyr Tyr Ala His Lys Gly Ser Met
            180                 185                 190
```

```
Ser Cys Val Val Thr Ala Lys Gly Lys Ala Ala His Ser Ser Met Pro
        195                 200                 205
His Leu Gly Thr Asn Ala Val Asp Ile Leu Val Asp Phe Val Asn Glu
    210                 215                 220
Met Lys Gln Glu Tyr Lys Asn Ile Lys Glu His Asp Lys Val His Glu
225                 230                 235                 240
Leu Asp Ala Val Pro Met Ile Glu Lys His Leu His Arg Lys Ile Gly
                245                 250                 255
Glu Glu Glu Ser His Ile Tyr Ser Gly Phe Val Met Leu Asn Ser Val
        260                 265                 270
Phe Asn Gly Gly Lys Gln Val Asn Ser Val Pro His Lys Ala Thr Ala
        275                 280                 285
Lys Tyr Asn Val Arg Thr Val Pro Glu Tyr Asp Ser Thr Phe Val Lys
        290                 295                 300
Asp Leu Phe Glu Lys Val Ile Arg His Val Gly Glu Asp Tyr Leu Thr
305                 310                 315                 320
Val Asp Ile Pro Ser Ser His Asp Pro Val Ala Ser Asp Arg Asp Asn
                325                 330                 335
Pro Leu Ile Gln Asn Ile Thr Arg Ile Ala Pro Asn Tyr Val His Glu
        340                 345                 350
Asp Ile Val Val Ser Ala Leu Ile Gly Thr Thr Asp Ala Ser Ser Phe
        355                 360                 365
Leu Gly Thr Asn Glu Asn Asn Val Asp Phe Ala Val Phe Gly Pro Gly
    370                 375                 380
Glu Ser Ile Met Ala His Gln Val Asp Glu Phe Ile Arg Lys Asp Met
385                 390                 395                 400
Tyr Leu Ser Tyr Ile Asp Val Tyr Lys Asp Val Phe Lys Ala Tyr Leu
                405                 410                 415
Glu Lys
```

```
<210> 4532
<211> 756
<212> PRT
<213> S.epidermidis

<400> 4532
Gln Tyr Glu Met Glu Ala Glu Ser Met Leu Glu Thr Asn Asn His Thr
1               5                   10                  15
Asn Ala Trp Gln Gly Phe Lys Thr Gly Arg Trp Asn Lys Asn Ile Asp
            20                  25                  30
Val Arg Glu Phe Ile Gln Leu Asn Tyr Ser Leu Tyr Glu Gly Asp Asp
        35                  40                  45
Glu Phe Leu Glu Gly Pro Thr Lys Ala Thr Glu Thr Leu Trp Asp Gln
    50                  55                  60
Val Met Gln Leu Ser Lys Glu Glu Arg Glu Arg Gly Gly Met Trp Asp
65                  70                  75                  80
Met Asp Thr Lys Val Ala Ser Thr Ile Thr Ser His Asp Ala Gly Tyr
                85                  90                  95
Leu Asp Lys Asp Leu Glu Lys Val Val Gly Val Gln Thr Glu Lys Pro
            100                 105                 110
Phe Lys Arg Ser Met Gln Pro Phe Gly Gly Ile Arg Met Ala Lys Ala
        115                 120                 125
Ala Cys Glu Ala Tyr Gly Tyr Glu Leu Asp Pro Glu Thr Glu Lys Ile
    130                 135                 140
Phe Thr Glu Tyr Arg Lys Thr His Asn Gln Gly Val Phe Asp Ala Tyr
```

```
     145                      150                      155                      160
Ser Arg Glu Met Leu Asn Cys Arg Lys Ala Gly Ile Ile Thr Gly Leu
                     165                      170                      175
Pro Asp Ala Tyr Gly Arg Gly Arg Ile Ile Gly Asp Tyr Arg Arg Val
                     180                      185                      190
Ala Leu Tyr Gly Val Asp Phe Leu Met Glu Gln Lys Leu Lys Asp Phe
                     195                      200                      205
Asn Thr Met Ser Thr Glu Met Ser Glu Asp Val Ile Arg Leu Arg Glu
             210                      215                      220
Glu Leu Ser Glu Gln Tyr Arg Ser Leu Gln Asp Leu Lys Glu Leu Gly
     225                      230                      235                      240
Gln Lys Tyr Gly Phe Asp Ile Ser Arg Pro Ala Thr Asn Phe Lys Glu
                     245                      250                      255
Ala Val Gln Trp Leu Tyr Leu Ala Tyr Leu Ala Ala Ile Lys Glu Gln
                     260                      265                      270
Asn Gly Ala Ala Met Ser Leu Gly Arg Thr Ser Thr Phe Leu Asp Ile
                     275                      280                      285
Tyr Ala Glu Arg Asp Leu Gln Asn Gly Asp Ile Thr Glu Gln Glu Val
             290                      295                      300
Gln Glu Ile Ile Asp His Phe Ile Met Lys Leu Arg Ile Val Lys Phe
     305                      310                      315                      320
Ala Arg Thr Pro Glu Tyr Asn Glu Leu Phe Ser Gly Asp Pro Thr Trp
                     325                      330                      335
Val Thr Glu Ser Ile Gly Gly Val Gly Ile Asp Gly Arg Pro Met Val
                     340                      345                      350
Thr Lys Asn Ser Phe Arg Phe Leu His Ser Leu Asp Asn Leu Gly Pro
                     355                      360                      365
Ala Pro Glu Pro Asn Leu Thr Val Leu Trp Ser Thr Arg Leu Pro Glu
             370                      375                      380
Asn Phe Lys Ile Tyr Cys Ala Lys Met Ser Ile Lys Thr Ser Ser Ile
     385                      390                      395                      400
Gln Tyr Glu Asn Asp Asp Leu Met Arg Glu Ser Tyr Gly Asp Asp Tyr
                     405                      410                      415
Gly Ile Ala Cys Cys Val Ser Ala Met Lys Ile Gly Lys Gln Met Gln
                     420                      425                      430
Phe Phe Gly Ala Arg Ala Asn Leu Ala Lys Ala Leu Leu Tyr Ala Ile
             435                      440                      445
Asn Gly Gly Lys Asp Glu Lys Ser Gly Lys Gln Val Gly Pro Ser Tyr
     450                      455                      460
Glu Gly Ile Lys Ser Asp Val Leu Asp Tyr Asp Glu Val Phe Glu Arg
     465                      470                      475                      480
Tyr Glu Lys Met Met Asp Trp Leu Ala Gly Val Tyr Ile Asn Ser Leu
                     485                      490                      495
Asn Ile Ile His Tyr Met His Asp Lys Tyr Ser Tyr Glu Arg Leu Glu
             500                      505                      510
Met Ala Leu His Asp Thr Glu Ile Ile Arg Thr Met Ala Thr Gly Ile
             515                      520                      525
Ala Gly Leu Ser Val Ala Ala Asp Ser Leu Ser Ala Ile Lys Tyr Ala
             530                      535                      540
Gln Val Lys Pro Ile Arg Asn Glu Glu Gly Leu Val Thr Asp Phe Glu
     545                      550                      555                      560
Ile Glu Gly Asp Phe Pro Lys Tyr Gly Asn Asn Asp Ser Arg Val Asp
                     565                      570                      575
Glu Ile Ala Val Asp Leu Val Glu Arg Phe Met Thr Lys Leu Arg Ser
             580                      585                      590
His Lys Thr Tyr Arg Asn Ser Glu His Thr Met Ser Val Leu Thr Ile
```

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            595                      600                      605
Thr Ser Asn Val Val Tyr Gly Lys Lys Thr Gly Asn Thr Pro Asp Gly
    610                      615                      620
Arg Lys Ala Gly Glu Pro Phe Ala Pro Gly Ala Asn Pro Met His Gly
625                      630                      635                      640
Arg Asp Gln Lys Gly Ala Leu Ser Ser Leu Ser Ser Val Ala Lys Ile
                645                      650                      655
Pro Tyr Asp Cys Cys Lys Asp Gly Ile Ser Asn Thr Phe Ser Ile Val
                660                      665                      670
Pro Lys Ser Leu Gly Lys Glu Glu Ala Asp Gln Asn Lys Asn Leu Thr
                675                      680                      685
Ser Met Leu Asp Gly Tyr Ala Met Gln His Gly His His Leu Asn Ile
            690                      695                      700
Asn Val Phe Asn Arg Glu Thr Leu Ile Asp Ala Met Glu His Pro Glu
705                      710                      715                      720
Glu Tyr Pro Gln Leu Thr Ile Arg Val Ser Gly Tyr Ala Val Asn Phe
                725                      730                      735
Ile Lys Leu Thr Arg Glu Gln Gln Leu Asp Val Ile Ser Arg Thr Phe
                740                      745                      750
His Glu Ser Met
            755
```

<210> 4533
<211> 167
<212> PRT
<213> S.epidermidis

<400> 4533
```
Arg Ser Gly Ile Thr Met Met Asn Gln Gln Tyr Val Phe His Thr Lys
1               5                       10                      15
Val His Arg Asp Trp Val Asp His Asn Gly His Leu Asn Asp Ala Met
                20                      25                      30
Tyr Asn Arg Ile Phe Ser Asp Thr Thr Asp Asp Trp Leu Gly His Leu
            35                      40                      45
Gly Leu Thr Ile Asn Ala Ile Gln Ser Tyr Gln Tyr Thr Val Phe Thr
            50                      55                      60
Leu Glu Asn His Val Met Phe Leu Asn Glu Met Lys Glu Asn Glu Asp
65                      70                      75                      80
Val Ile Val Lys Val His Leu His Asp Tyr Asp Ser Lys Arg Leu His
                85                      90                      95
Val Leu Met Glu Met Phe Asn Ala Asp Asp Asp Leu Cys Ala Thr Tyr
                100                     105                     110
Glu Val Met Leu Met Gly Ile Asp Thr Thr Ser Gly Arg Pro Ser Ala
            115                     120                     125
Phe Pro Asn Asp Ile Leu Asn Asn Ile Glu His Tyr Tyr Asn Ile Glu
            130                     135                     140
Asn Val Glu Met Thr Ser Gln Tyr Ile Gly His Arg Ile Gly Ile Lys
145                     150                     155                     160
Lys Lys Pro Lys Ser Lys Glu
                165
```

<210> 4534
<211> 96
<212> PRT
<213> S.epidermidis

<400> 4534
Leu Ser Thr Phe Cys Leu Ser Ser Pro Trp Lys Lys Glu Leu Ile Asn
1   5   10   15
Ala Met Val Ala Gly Ser Lys His Ala Ala Asp Lys Pro Cys Lys Thr
            20   25   30
Arg Pro Asn Asn Asn Lys Ile Gly Ala Cys Glu Met Ile Asn Ala Ile
        35   40   45
Glu Pro Ser Ile Leu Asn Ile Arg Pro Ala Phe Val Ile Leu Thr Arg
    50   55   60
Pro Ile Leu Ser Asp Asn Pro Pro Ala Thr Thr Ile Asn Thr Pro Val
65   70   75   80
Lys Ser Asp Val Arg Leu Thr Ala Ile Leu Thr Ile Leu Ile Ser Thr
                85   90   95

<210> 4535
<211> 84
<212> PRT
<213> S.epidermidis

<400> 4535
Tyr Val Met Met Asp Phe Leu His Tyr Ile Leu Pro Val Ile Ile Tyr
1   5   10   15
Ala Val Leu Leu Ala Ile His Tyr Phe Leu Ser Arg Thr Gly Asn Lys
            20   25   30
Ile Leu Gly Leu Ile Val Pro Val Gly Val Ile Ala Ser Leu Val Tyr
        35   40   45
Met Tyr Gln Ala Asp Ile Ile His Met Lys Met Ile Gly Val Ile Ile
    50   55   60
Ile Gly Ile Val Ala Leu Leu Phe Leu Ala Glu Glu Trp Gln Arg Ala
65   70   75   80
Gln Lys Asp Lys

<210> 4536
<211> 213
<212> PRT
<213> S.epidermidis

<400> 4536
Asp Thr Met Ile Lys Phe Ile Ser Glu His Ser Gly Met Leu Phe Ala
1   5   10   15
Lys Thr Phe Glu His Leu Tyr Ile Ser Ile Val Ala Leu Val Ile Ala
            20   25   30
Met Ile Val Ala Val Pro Leu Gly Ile Leu Leu Ser Lys Lys Glu Lys
        35   40   45
Leu Ser Lys Val Ser Leu Thr Ile Ala Gly Val Leu Gln Thr Ile Pro
    50   55   60
Thr Leu Ala Val Leu Ala Leu Met Ile Pro Leu Phe Gly Val Gly Lys
65   70   75   80
Thr Pro Ala Ile Ile Ala Leu Phe Leu Tyr Val Leu Leu Pro Ile Leu
            85   90   95
Asn Asn Thr Ile Ile Gly Ile Gln Asn Ile Asp Ser Asn Leu Arg Glu
            100   105   110
Ala Gly Arg Ser Met Gly Met Thr Asn Phe Gln Leu Met Lys Asp Val
        115   120   125
Glu Leu Pro Leu Ala Leu Pro Leu Ile Leu Ser Gly Ile Arg Leu Ser

```
            130                     135                     140
Ser Val Tyr Val Ile Ser Trp Ala Thr Leu Ala Ser Tyr Val Gly Ala
145                     150                     155                     160
Gly Gly Leu Gly Asp Phe Ile Phe Asn Gly Leu Ala Leu Phe Glu Pro
                    165                     170                     175
Ser Met Ile Ile Thr Ala Thr Ile Leu Val Thr Ala Ile Ala Leu Ile
                    180                     185                     190
Val Asp Tyr Val Leu Ser Leu Ile Glu Lys Trp Val Val Pro Lys Gly
                    195                     200                     205
Leu Lys Val Ser Arg
            210
```

<210> 4537
<211> 63
<212> PRT
<213> S.epidermidis

<400> 4537
```
Leu Asn Ser Ile Thr Ile Asp Ser Lys Gly Val Leu Lys Lys Léu Cys
1               5                   10                  15
Glu Val Trp Arg Lys Lys Pro Leu Ile Thr Val Ile Val Cys Leu Tyr
            20                      25                      30
Thr Arg Ile Leu Arg His Ile Phe Leu Lys Lys Ser His Tyr Gln Lys
            35                      40                      45
Leu Lys Asn Ile Ile Ile Ile Asn Val Val Lys Asn Val Leu Asp
        50                      55                      60
```

<210> 4538
<211> 236
<212> PRT
<213> S.epidermidis

<400> 4538
```
Asn Asn Thr Met Lys Val Ile Ala Met Tyr Ser Ile Lys Met Arg Ala
1               5                   10                  15
Ser His Glu Asp Val His Ile Ser Gly Ala Glu Thr Met Cys Glu Phe
            20                      25                      30
Glu Asp Leu Glu Asn Tyr Leu Lys Lys Tyr Phe Asn Lys Ala Phe Asn
            35                      40                      45
His Glu Asn Gly Asn Ile Asp Phe Leu Asn Leu Lys Ile Glu Lys Val
        50                      55                      60
Lys Ala Pro Ile Gln Thr Leu Val Ala Leu Pro Val Val Glu Asn Leu
65                      70                      75                      80
Asn Asp Thr Leu Thr Gln Leu Ala Lys Gln Thr Gly Val Ser Glu Tyr
                    85                      90                      95
Ala Leu Asn Lys Gly Leu Glu Phe Ile Lys Asn Asp Ile Thr Tyr Thr
                    100                     105                     110
Gly Ala Ile Ile Leu Ser Ala Gln Thr Gly Gln Arg Leu Asp Ser Thr
                    115                     120                     125
Glu Gln Arg Gly Ile Arg Val Thr Gln Leu Ala Phe Lys Thr Cys Lys
            130         '           135                     140
Cys Asn Gly Glu Ile Ser Glu Arg Val Lys Asp Ala Arg Ala Leu Ala
145                     150                     155                     160
Thr Cys Ile Asn Ala Phe Glu Gly Val Lys Ala Glu Leu Cys Val Ser
                    165                     170                     175
Asp Asp Leu His Tyr Thr Thr Gly Tyr Phe Ala Ser Pro Lys Leu Gly
```

```
           180                    185                    190
Tyr Arg Arg Ile Phe Asn Ile Lys Glu Lys Gly Thr Arg His Gly Gly
        195                    200                    205
Arg Ile Ile Phe Val Asp Glu Gly Ile Asn Leu Asn Glu Tyr Val Ser
        210                    215                    220
Phe Leu Glu Thr Val Pro Lys Glu Ile Ile Glu Lys
225                    230                    235
```

<210> 4539
<211> 56
<212> PRT
<213> S.epidermidis

<400> 4539
```
Ser Tyr Phe Val Leu Leu Thr Gln Tyr Ser His Phe Thr Val Leu Leu
1               5                   10                    15
Ile Phe Ser Asn Asp Phe His Phe Leu Ile Lys Asn Lys Asn Pro Cys
            20                    25                    30
Thr Leu Asn Ile Ile Lys Asn Phe Tyr Leu Leu Lys Ile Ile Cys Gln
        35                    40                    45
Asn Lys Trp Ile Phe Asn Lys Lys
    50                    55
```

<210> 4540
<211> 192
<212> PRT
<213> S.epidermidis

<400> 4540
```
Arg Met Asn Val Ala Asp Ile Lys Ala Arg Leu Leu Asp Leu Glu Asn
1               5                   10                    15
Thr Phe Lys Glu Lys Glu Ser Glu Leu Thr Asp Leu Asp Arg Ala Ile
            20                    25                    30
Gly Asp Gly Asp His Gly Val Asn Met Val Arg Gly Phe Glu His Leu
        35                    40                    45
Lys Glu Lys Ile Asp Asp Gln Ser Met Gln Ala Leu Phe Lys Ser Thr
    50                    55                    60
Gly Met Thr Leu Met Ser Asn Val Gly Gly Ala Ser Gly Pro Leu Tyr
65                    70                    75                    80
Gly Phe Gly Phe Ile Lys Met Ala Ser Ala Val Asn Asp Glu Ile Asp
                85                    90                    95
His Asp Asn Leu Lys Glu Val Leu Lys Ala Phe Ala Asp Gly Ile Gln
            100                   105                   110
Gln Arg Gly Lys Val Glu Leu Asn Glu Lys Thr Met Tyr Asp Val Ile
        115                   120                   125
Glu Arg Ala Arg Glu Ala Val Glu Lys Asn Glu Thr Val Asp Leu Asp
        130                   135                   140
Lys Leu Gln Ser Phe Ala Asn Glu Thr Lys Asp Met Val Ala Thr Lys
145                   150                   155                   160
Gly Arg Ala Ser Tyr Phe Asn Glu Ala Ser Lys Gly Tyr Ile Asp Pro
                165                   170                   175
Gly Ala Gln Ser Ser Val Tyr Ile Leu Asn Ala Ile Ile Gly Gly Glu
            180                   185                   190
```

<210> 4541
<211> 75
```

&lt;212&gt; PRT
&lt;213&gt; S.epidermidis

&lt;400&gt; 4541

```
Asn Ile Cys Phe Leu Tyr Leu Ile Tyr His Asn Ile Val Gln Phe Asn
1               5                   10                  15
Leu Lys Phe Thr Met Phe Asn Ile Tyr Ser Ser Phe Tyr Ile Leu Tyr
            20                  25                  30
Lys Lys His Gly Leu Tyr Leu Thr Val Cys Ser Phe Thr Phe Arg Pro
        35                  40                  45
Thr Ile Cys Leu Ser Asn Gln Ser Lys Thr Tyr Phe Tyr Val Thr Phe
    50                  55                  60
Val Asn Cys Ser Arg Phe Thr Thr Thr Lys Tyr
65                  70                  75
```

<210> 4542
<211> 315
<212> PRT
<213> S.epidermidis

<400> 4542

```
Arg Ser Val Val Met Val Lys Phe Ile Met Lys Arg Leu Thr Leu Met
1               5                   10                  15
Ile Pro Leu Leu Ile Val Val Thr Phe Met Thr Phe Met Met Thr Tyr
            20                  25                  30
Leu Thr Asn Glu Asp Pro Ala Val Thr Ile Leu His Ala Gln Gly Thr
            35                  40                  45
Pro Asn Ile Thr Gln Asp Leu Ile Ala Glu Thr Lys Glu Lys Tyr Gly
    50                  55                  60
Leu Asn Gln Pro Ile Phe Thr Gln Tyr Lys Asn Trp Leu Val Asp Ala
65                  70                  75                  80
Leu Gln Phe Lys Phe Gly Thr Ser Tyr Ile Thr Gly Asp Pro Val Ser
            85                  90                  95
Glu Arg Met Gly Pro Ala Phe Met Asn Thr Leu Lys Leu Thr Leu Ile
            100                 105                 110
Ser Ser Val Val Val Met Ile Thr Ser Val Val Leu Gly Ile Val Ser
            115                 120                 125
Ala Leu Thr Ser Gly Arg Phe Pro Asp Arg Ala Ile Arg Ser Ile Ala
            130                 135                 140
Phe Leu Leu Thr Ala Leu Pro Ser Tyr Trp Val Ala Ser Ile Leu Ile
145                 150                 155                 160
Ile Tyr Val Ser Val Lys Leu Asn Leu Leu Pro Thr Ser Gly Leu Thr
            165                 170                 175
Gly Pro Glu Ser Tyr Ile Leu Pro Val Phe Val Ile Thr Ile Thr Tyr
            180                 185                 190
Ala Gly Ile Tyr Phe Arg Asn Val Arg Arg Ser Met Leu Glu Gln Leu
            195                 200                 205
Asn Glu Asp Tyr Val Leu Tyr Leu Lys Ala Ser Gly Val Pro Arg Leu
    210                 215                 220
Thr Met Leu Leu His Val Leu Arg Asn Ala Leu Gln Val Ala Ile Ser
225                 230                 235                 240
Ile Phe Cys Met Ser Ile Pro Met Ile Met Gly Gly Leu Val Val Ile
            245                 250                 255
Glu Asn Val Phe Ala Trp Pro Gly Leu Gly Pro Leu Ser Ile Lys Ala
            260                 265                 270
Ile Thr Glu His Asp Phe Pro Val Ile Gln Ala Tyr Val Leu Ile Val
```

```
        275                 280                 285
Ala Val Leu Phe Ile Leu Phe Asn Thr Leu Ala Asp Ile Ile Asn Ala
    290                 295                 300
Ile Leu Asn Pro Arg Leu Arg Glu Ala Met Lys
305                 310                 315


<210> 4543
<211> 54
<212> PRT
<213> S.epidermidis


<400> 4543
Arg Pro Ser Val Lys Val Val Pro Ala Ala Leu Glu Ala Met Thr Thr
1                   5                   10                  15
Glu Asn Gly Leu Ile Val Glu Asn Val Leu Pro Thr Glu Leu Ala Lys
              20                  25                  30
Lys Ile Ala Pro Thr Glu Thr Ile Glu Ser Tyr Pro Ser Ala Ile Asn
          35                  40                  45
Ile Gly Thr Arg Thr Gly
    50


<210> 4544
<211> 257
<212> PRT
<213> S.epidermidis


<400> 4544
Leu Thr Met Val Asn Ile Met Glu Lys Phe Lys Leu Thr Gly Lys Val
1                   5                   10                  15
Ala Met Val Ile Gly Gly Ala Thr Gly Ile Gly Lys Ala Met Ala Glu
              20                  25                  30
Ala Leu Ala Gln Ala Gly Ala Asn Ile Val Ile Ala Asp Leu Gln Ser
          35                  40                  45
Asn Ile Gly Gln Glu Thr Ala Thr Thr Ile Ser Thr Gln Ser Gly Val
    50                  55                  60
Lys Thr Thr Ser Leu Lys Leu Asp Ile Thr His Leu Asp Glu Val Asn
65                  70                  75                  80
Gln Ile Val Asp Tyr Val Val Arg Glu Tyr Gly Lys Ile Asp Ile Leu
              85                  90                  95
Val Asn Asn Ala Ser Ile Ser Ile Gln Asp Asp Thr Glu Asn Ile Ser
              100                 105                 110
Tyr Glu Glu Trp Leu Lys Glu Ile Asn Leu Ser Leu Asn Gly Ala Phe
          115                 120                 125
Ser Val Ala Gln Thr Val Gly Arg Gln Met Ile Glu Lys Gly Ser Gly
          130                 135                 140
Ser Met Ile Asn Val Ser Ser Val Leu Gly Leu Ile Ala Asn Lys Thr
145                 150                 155                 160
Gln Asp Gln Ser Ser Tyr Glu Thr Ser Lys Ala Gly Val Thr Met Leu
              165                 170                 175
Thr Lys Ser Leu Ala Arg Glu Trp Ser Arg Tyr Gly Ile Lys Val Asn
          180                 185                 190
Ala Ile Ala Pro Gly Tyr Met Arg Thr Ile Glu Thr Glu Lys Ile Leu
          195                 200                 205
Asn Asp Asn Thr Glu Thr Asn Thr Thr Pro Met Glu Arg Val Gly Glu
    210                 215                 220
Pro Glu Glu Leu Ala Gly Ile Thr Val Tyr Leu Ala Ser Asp Ala Ser
```

```
225                 230                 235                 240
Ser Phe Thr Gln Gly Ser Val Phe Asn Ile Asp Gly Gly Tyr Ser Ala
                245                 250                 255
Leu
```

<210> 4545
<211> 194
<212> PRT
<213> S.epidermidis

<400> 4545
```
Leu Ile Leu Leu Gln Glu Lys Lys Leu Ala Lys Val Asn Gln Gln Lys
1               5                   10                  15
Lys Ser Leu Asn Asn Leu Leu Thr Lys Leu Leu Ser Met Val Gln Gln
                20                  25                  30
Lys Gln Asn Gln Val Asn Gln Arg Asn Gln Val Asn Gln Arg Asn Gln
            35                  40                  45
Val Asn Gln Arg Asn Gln Val Arg Gln Gln Asn Gln Val Asn Gln Arg
        50                  55                  60
Asn Gln Val Arg Gln Gln Asn Gln Val Asn Gln Arg Asn Gln Val Asn
65                  70                  75                  80
Gln Arg Asn Gln Val Asn Gln Arg Asn Gln Val Arg Gln Gln Asn Gln
                85                  90                  95
Val Arg Gln Gln Asn Gln Val Asn Gln Arg Asn Gln Val Arg Gln Gln
            100                 105                 110
Asn Gln Val Asn Gln Arg Asn Gln Val Arg Gln Gln Asn Gln Val Asn
            115                 120                 125
Gln Arg Asn Gln Val Arg Gln Gln Asn Gln Val Asn Gln Arg Asn Gln
        130                 135                 140
Val Asn Gln Trp Asn Gln Val Asn Gln Trp Asn Gln Val Arg Gln His
145                 150                 155                 160
Asn Gln Val His Gln Asn Asn Gln Ile Asp Gln Cys Ile Gln Gln Ile
            165                 170                 175
Ile Lys Ile Asn Tyr Leu Ile Gln Val Lys Ile Val Lys Leu Met Arg
            180                 185                 190
Glu Leu
```

<210> 4546
<211> 473
<212> PRT
<213> S.epidermidis

<400> 4546
```
Cys Asp Ile Phe Phe Leu Thr Lys Met Ile Gly Val Leu Gly Met Asn
1               5                   10                  15
Phe Phe Asp Ile His Lys Met Pro Asn Lys Gly Ile Pro Leu Ser Val
                20                  25                  30
Gln Arg Lys Leu Trp Leu Arg Asn Phe Met Gln Ala Phe Phe Val Val
            35                  40                  45
Phe Phe Val Tyr Met Ala Met Tyr Leu Ile Arg Asn Asn Phe Lys Ala
        50                  55                  60
Ala Gln Pro Leu Leu Lys Glu Glu Ile Gly Leu Thr Thr Leu Glu Leu
65                  70                  75                  80
Gly Tyr Ile Gly Leu Ala Phe Ser Ile Thr Tyr Gly Leu Gly Lys Thr
```

```
                    85                  90                  95
Ile Leu Gly Tyr Phe Val Asp Gly Arg Asn Thr Lys Arg Ile Ile Ser
                   100                 105                 110
Phe Leu Leu Ile Leu Ser Ala Ile Thr Val Leu Ile Met Gly Phe Val
                   115                 120                 125
Leu Ser Tyr Phe Gly Ser Val Met Gly Leu Leu Ile Val Leu Trp Gly
          130                 135                 140
Leu Asn Gly Ile Phe Gln Ser Val Gly Gly Pro Ala Ser Tyr Ser Thr
145                 150                 155                 160
Ile Ser Arg Trp Ala Pro Arg Thr Lys Arg Gly Arg Tyr Leu Gly Phe
                   165                 170                 175
Trp Asn Thr Ser His Asn Ile Gly Gly Ala Ile Ala Gly Gly Val Ala
                   180                 185                 190
Leu Trp Gly Ala Asn Thr Phe Phe His Gly Asn Val Val Gly Met Phe
          195                 200                 205
Ile Phe Pro Ser Val Ile Ala Leu Ile Ile Gly Ile Val Thr Leu Phe
          210                 215                 220
Ile Gly Lys Asp Asp Pro Glu Glu Leu Gly Trp Asn Arg Ala Glu Glu
225                 230                 235                 240
Ile Trp Glu Glu Pro Ile Asp Gln Glu Asn Ile Asp Ser Gln Gly Met
                   245                 250                 255
Thr Lys Trp Asp Ile Phe Lys Lys Tyr Ile Leu Gly Asn Pro Val Ile
                   260                 265                 270
Trp Ile Leu Cys Ile Ser Asn Val Phe Val Tyr Ile Val Arg Ile Gly
          275                 280                 285
Ile Asp Asn Trp Ala Pro Leu Tyr Val Ser Glu His Leu His Phe Asn
          290                 295                 300
Lys Gly Asp Ala Val Asn Thr Ile Phe Tyr Phe Glu Ile Gly Ala Leu
305                 310                 315                 320
Val Ala Ser Leu Leu Trp Gly Tyr Ile Ser Asp Leu Leu Lys Gly Arg
                   325                 330                 335
Arg Ala Ile Val Ala Ile Gly Cys Met Phe Met Ile Thr Phe Val Val
                   340                 345                 350
Leu Phe Tyr Thr Asn Ala Thr Ser Val Thr Met Val Asn Ile Ser Leu
          355                 360                 365
Phe Ala Leu Gly Ala Leu Ile Phe Gly Pro Gln Leu Leu Ile Gly Val
          370                 375                 380
Ser Leu Thr Gly Phe Val Pro Lys Asn Ala Ile Ser Val Ala Asn Gly
385                 390                 395                 400
Met Thr Gly Ser Phe Ala Tyr Leu Phe Gly Asp Ser Met Ala Lys Val
                   405                 410                 415
Gly Leu Ala Ala Ile Ala Asp Pro Thr Arg Asn Gly Leu Asn Ile Phe
          420                 425                 430
Gly Tyr Thr Leu Ser Gly Trp Thr Asp Val Phe Ile Val Phe Tyr Val
          435                 440                 445
Ala Leu Phe Leu Gly Met Ile Leu Leu Ala Ile Val Ala Tyr Tyr Glu
          450                 455                 460
Glu Lys Lys Ile Arg Lys Leu Lys Ile
465                 470
```

<210> 4547
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4547

Phe Ile Ser Phe Ile Leu Ile Phe Lys Met Lys Ser His Cys Ser His
1   5   10   15
Phe Val Phe Met Pro His Tyr Arg Thr Tyr Phe Leu Ile Gln Leu Asn
            20   25   30
Arg Thr Ser Phe Leu Phe Pro Ile Lys Asn Thr Pro
        35   40

<210> 4548
<211> 543
<212> PRT
<213> S.epidermidis

<400> 4548
Val Tyr Ile Phe Ser Lys Arg Lys Arg Lys Thr Met Asn Lys Leu Thr
1   5   10   15
Lys Leu Ser Thr Val Ile Phe Val Ser Gly Ile Ile Leu Ala Gly Cys
            20   25   30
Gly Ser Asn Lys Glu Leu Thr Glu Lys Lys Glu Asn Lys Val Leu Ser
        35   40   45
Tyr Thr Thr Val Lys Asp Ile Gly Asp Met Asn Pro His Val Tyr Gly
    50   55   60
Gly Ser Met Ser Ala Glu Ser Met Ile Tyr Glu Pro Leu Val Arg Asn
65   70   75   80
Thr Lys Asp Gly Ile Lys Pro Leu Leu Ala Lys Lys Trp Asp Ile Ser
            85   90   95
Pro Asp Gly Lys Thr Tyr Thr Phe Tyr Leu Arg Asp Asp Val Ser Phe
            100   105   110
His Asp Gly Thr Lys Phe Asp Ala Asp Ala Val Lys Lys Asn Ile Asp
            115   120   125
Ala Val Gln Gln Asn Lys Lys Leu His Ser Trp Leu Lys Leu Ser Thr
        130   135   140
Leu Ile Asp Asp Val Lys Val Lys Asp Lys Tyr Thr Val Gln Leu His
145   150   155   160
Leu Lys Glu Ala Tyr Gln Pro Ala Leu Ala Glu Leu Ala Met Pro Arg
            165   170   175
Pro Tyr Val Phe Val Ser Pro Lys Asp Phe Lys His Gly Thr Thr Lys
            180   185   190
Asp Gly Val Lys Ser Phe Asp Gly Thr Gly Pro Phe Lys Met Gly Glu
            195   200   205
His Lys Lys Asp Ile Ser Ala Glu Phe Asn Lys Asn Asn Gln Tyr Trp
    210   215   220
Gly Glu Lys Ala Lys Leu Asn Lys Val Glu Ala Lys Val Lys Pro Ala
225   230   235   240
Gly Glu Thr Ala Phe Leu Ser Met Lys Lys Gly Glu Thr Asn Phe Ala
            245   250   255
Tyr Thr Asp Asp Arg Gly Thr Asp Ser Leu Asp Lys Asp Ser Leu Lys
            260   265   270
Gln Leu Lys Glu Thr Gly Ser Tyr Gln Val Lys Arg Ser Gln Ala Met
        275   280   285
Asn Thr Lys Met Leu Val Val Asn Ser Gly Lys Lys Asp Ser Ala Val
    290   295   300
Ser Asp Lys Ala Val Arg Gln Ala Leu Gly His Met Val Asn Arg Asp
305   310   315   320
Lys Ile Ala Gln Asp Ile Leu Asn Lys Gln Glu Lys Pro Ala Thr Gln
            325   330   335
Leu Phe Ala Lys Asn Val Thr Asp Ile Asn Phe Asn Leu Pro Thr Arg

```
                340                        345                        350
Thr Tyr Asp Lys Lys Lys Ala Gln Ala Leu Leu Asp Lys Ala Gly Trp
        355                        360                        365
Val Leu Ser Lys Asp Arg Gln Val Arg Gln Lys Glu Gly Lys Asp Leu
        370                        375                        380
Asn Leu Lys Leu Tyr Tyr Asp Lys Gly Ser Ser Ser Gln Lys Glu Gln
385                        390                        395                        400
Ala Glu Phe Leu Glu Ala Glu Phe Lys Lys Leu Gly Val Gln Leu Asp
                405                        410          ·             415
Ile Asn Gly Glu Thr Ser Asp Lys Val Ala Glu Arg Arg Ser Ser Gly
                420                        425                        430
Asp Tyr Asp Leu Met Phe Asn Gln Thr Trp Gly Leu Leu Tyr Asp Pro
        435                        440                        445
Gln Ser Thr Leu Ala Ala Phe Lys Thr Lys Thr Gly Tyr Glu Ser Ala
        450                        455                        460
Thr Leu Gly Ile Lys Asn Lys Ser Gln Leu Tyr Lys Asp Ile Asp Glu
465                        470                    ,475                        480
Ala Phe Lys Ile Gln Asp Ala Lys Ala Arg Ser Lys Ala Tyr Gln Gln
                485                        490                        495
Ile Leu Lys Gln Val Asp Asp Glu Gly Val Phe Ile Pro Ile Thr His
                500                        505                        510
Gly Arg Met Thr Val Val Ala Pro Lys Asp Leu Gln Lys Leu Ser Phe
                515                        520                        525
Thr Gln Ser Gln Tyr Glu Leu Pro Phe Asn Glu Met Gln Tyr Lys
        530                        535                        540


<210> 4549
<211> 171
<212> PRT
<213> S.epidermidis

<400> 4549
Phe Met Ile Leu Cys Phe Phe Cys Lys Tyr Ser Ile Cys Gln Ile Phe
1               5                       10                      15
Ile Met Tyr Glu Ser Tyr Thr His Ser Ser Gln Ile Arg Gly Ser Tyr
        20                      25                      30
Ser Met Ser Lys Lys Lys Ile Leu Ile Phe Ile Ser Val Ile Leu Ile
        35                      40                      45
Ile Phe Gly Gly Val Tyr Leu Lys Met Lys Tyr Asp Glu Lys Ala Lys
        50                      55                      60
Gln Lys Glu Ile Tyr Tyr Lys Glu Gln Gln Glu Arg Ile Thr Leu Tyr
65                      70                      75                      80
Leu Lys Tyr Asn Thr Lys Lys Pro Asn Thr Ile Lys Ser Val His Phe
                85                      90                      95
Thr Ser Leu Lys Gln Gly Pro Met Gly Asp Ala Ile Ile Glu Gly Tyr
        100                     105                     110
Ile Asn Asn Asn Lys Glu Asn Glu Phe Val Ala Phe Ala Ser Ser Glu
        115                     120                     125
Asp Asn Phe Gln Phe Gln Gly Asp Met Ile Glu Ser Lys Lys Val Ser
        130                     135                     140
Asn Leu Ile Lys Tyr Gln Thr Lys Thr Pro Asp Glu Ile Lys Lys Asp
145                     150                     155                     160
Leu Asp Lys Lys Lys Asn Ala Lys Asp Phe Tyr
                165                     170


<210> 4550
```

<211> 69
<212> PRT
<213> S.epidermidis

<400> 4550
Cys Pro Pro Leu Phe Val Ile Tyr Ile Leu Leu Leu Val Gln Tyr Lys
1   5   10   15
Val Phe Tyr Ile Glu Asn Val Ser Asn Ala Ile Asn Tyr Leu Leu Thr
            20   25   30
Leu Ala Pro Thr His Asn Ser Ser Asn Thr Ser His Ile Lys Phe Ser
            35   40   45
Phe Ser Asp Asn Leu Ile Leu Leu Arg Ile Leu Ser Ala Tyr Ile Asp
        50   55   60
Val Ile Tyr Phe Phe
65

<210> 4551
<211> 341
<212> PRT
<213> S.epidermidis

<400> 4551
Thr Val Lys Phe Glu Lys Ala Ile Gly Thr Gly Ala Phe Val Val Asp
1   5   10   15
Lys Thr Val Lys Glu Lys Thr Thr Leu Lys Pro Asn Lys Tyr Phe Asp
            20   25   30
His Gly His Pro Ile Asn Tyr His Leu Ala Phe Gln Thr Ile Glu Asp
            35   40   45
Gly Asp Ser Arg Asn Ser Pro Val Gln Ser Gly Phe Val Asp Ile Ser
        50   55   60
Gly Gly Ala Leu Gly Met Leu Ser Asp Glu Gln Ile Lys Gln Asp Lys
65   70   75   80
Lys Asn Lys Asn Leu Thr Ile Glu Asp Arg Pro Ser Thr Val Ser His
            85   90   95
Phe Met Ala Phe Asn Pro Lys Asn Asp Val Leu Asn Gln Arg Thr Ile
            100   105   110
Arg Glu Ala Ile Ser Lys Ser Ile Asp Ala Lys Asp Ile Ala Gly Lys
            115   120   125
Ser Val Asn Gly Leu Phe Gln Lys Asn Val Gln Phe Val Thr Lys Asn
        130   135   140
Asn Gln Gln Pro His Asp Tyr Asp Met Lys Ala Ala Glu Arg Leu Leu
145   150   155   160
Lys Ser Glu Gly Tyr His Lys Asn Asp Asp Gly Ile Phe Glu Lys Asn
            165   170   175
Gly Lys Pro Leu Ser Phe Asn Leu Val Ile Gln Thr Ala Glu Phe Pro
            180   185   190
Asn Trp Lys Asp Lys Ala Glu Lys Val Gln Arg Gln Leu Lys Gln Ala
            195   200   205
Gly Ile Lys Leu Asn Val Lys Thr Leu Asp Ser Gln Ser Tyr Tyr Asp
        210   215   220
Thr Leu Trp Thr Lys Lys Asp Tyr Asp Leu Ile Phe Tyr Arg Thr Tyr
225   230   235   240
Ser Asp Ala Leu Met Pro Tyr Asn Phe Ile Ser Ser Val Phe Lys Asn
            245   250   255
Asn Asp Gly Gln Pro Gly Val Leu Ala Asp Asp Glu Thr Leu Thr Lys
        260   265   270

```
Gln Leu Asp Asp Phe Pro Ser Thr Val Ser Lys Glu Asp Gln Gln Cys
        275                 280                 285
Ser Phe Asp Asp Ile Phe Lys His Phe Asn Gln Gln Tyr Tyr Gly Val
        290                 295                 300
Pro Ile Ala Tyr Pro Asn Glu Thr Phe Val Val Ser Asp Lys Val Lys
305                 310                 315                 320
Gln Phe Lys Phe Ser Gly Leu Thr Asp Ala Pro Ile Asp Tyr Lys Ala
                325                 330                 335
Leu Lys Val Asn Glu
                340
```

<210> 4552
<211> 253
<212> PRT
<213> S.epidermidis

<400> 4552
```
Gly Val Ile Ser Met Leu Lys Val Gln Asn Val Ile Lys Phe Tyr Gly
1               5                   10                  15
Lys Lys Ser Met Phe Arg Asp Lys Arg Ile Pro Val Val Lys Gly Val
            20                  25                  30
Ser Phe Asp Cys Pro Thr Gly Ala Ser Val Ala Ile Ile Gly Glu Ser
        35                  40                  45
Gly Ser Gly Lys Ser Thr Leu Ser Arg Met Ile Leu Gly Leu Glu Lys
    50                  55                  60
Pro Asp Gln Gly Gln Val Thr Leu Asp Gly Gln Pro Val His Leu Lys
65                  70                  75                  80
Lys Val Arg Arg His Arg Ile Ala Ala Val Phe Gln Asp Tyr Thr Ser
                85                  90                  95
Ser Leu His Pro Phe His Thr Val Lys Asp Ile Leu Phe Glu Val Met
            100                 105                 110
Asn Gln Cys Arg Cys Thr Ser Lys Glu Asn Met Glu Glu Tyr Val Thr
            115                 120                 125
Val Leu Leu Arg Glu Val Gly Leu Lys Ser Asp Cys Leu Tyr Cys Tyr
    130                 135                 140
Pro His Met Leu Ser Gly Gly Glu Ala Gln Arg Val Ala Ile Ala Arg
145                 150                 155                 160
Ala Ile Cys Met Gln Pro Asp Tyr Ile Leu Phe Asp Glu Ala Ile Ser
            165                 170                 175
Ser Leu Asp Met Ser Met Gln Thr Gln Ile Leu Asp Leu Leu Lys Arg
            180                 185                 190
Leu Arg His Ser His Gln Leu Ser Tyr Ile Phe Ile Thr His Asp Ile
        195                 200                 205
Gln Ala Ala Thr Tyr Ile Cys Asp Asp Leu Leu Ile Phe Lys Asn Gly
    210                 215                 220
Cys Ile Glu Ala Arg Thr Ser Ile Ser Glu Leu His Arg Gln Gln Asn
225                 230                 235                 240
Gly Tyr Thr Arg Glu Leu Ile Asp Lys Gln Leu Ser Ile
                245                 250
```

<210> 4553
<211> 406
<212> PRT
<213> S.epidermidis

<400> 4553

```
Gln Ile Glu Leu Pro Ile Glu Arg Asn Gly His Met Leu Ser Ile Lys
1               5                   10                  15
Asn Leu Ser Lys Val Tyr Ala Gly Gly Lys Lys Ala Val Asp Asn Met
            20                  25                  30
Thr Ile Asp Ile Glu Ser Gly Asp Phe Ile Ala Phe Ile Gly Thr Ser
        35                  40                  45
Gly Ser Gly Lys Thr Thr Ala Leu Arg Met Ile Asn Arg Met Ile Glu
    50                  55                  60
Ser Thr Glu Gly Glu Ile Thr Ile Asp Gly Lys Asn Ile Lys Glu Leu
65                  70                  75                  80
Asn Pro Val Glu Leu Arg Arg Ser Ile Gly Tyr Val Ile Gln Gln Ile
                85                  90                  95
Gly Leu Met Pro His Met Thr Val Lys Glu Asn Ile Val Leu Val Pro
            100                 105                 110
Lys Leu Leu Lys Trp Ser Gln Glu Lys Lys Asp Glu Lys Ala Lys Glu
        115                 120                 125
Leu Ile Arg Leu Val Asp Leu Pro Glu Glu Tyr Leu Asp Arg Tyr Pro
    130                 135                 140
Ser Glu Leu Ser Gly Gly Gln Gln Gln Arg Ile Gly Val Val Arg Ala
145                 150                 155                 160
Leu Ala Ala Glu Gln Asp Ile Ile Leu Met Asp Glu Pro Phe Gly Ala
            165                 170                 175
Leu Asp Pro Ile Thr Arg Asp Thr Leu Gln Asp Leu Val Lys Lys Leu
            180                 185                 190
Gln Gln Gln Leu Gly Lys Thr Phe Ile Phe Val Thr His Asp Met Asp
        195                 200                 205
Glu Ala Ile Lys Leu Ala Asp Lys Ile Cys Ile Met Thr Asn Gly Gln
    210                 215                 220
Val Val Gln Tyr Asp Thr Pro Asp Asn Ile Leu Arg Ser Pro Ala Asn
225                 230                 235                 240
Asp Phe Val Arg Asp Phe Ile Gly Gln Asn Arg Leu Ile Gln Asp Arg
            245                 250                 255
Pro Asn Ile Arg Thr Val Lys Asp Ala Met Ile Lys Pro Val Thr Val
            260                 265                 270
His Val Asp Arg Ser Leu Asn Asp Ala Val Asn Ile Met Arg Glu Lys
    275                 280                 285
Arg Val Asp Thr Ile Phe Val Val Gly Asn Asp Glu His Leu Leu Gly
    290                 295                 300
Tyr Leu Asp Ile Glu Asp Ile Asn Glu Gly Leu Arg His His Lys Glu
305                 310                 315                 320
Leu Ile Asp Thr Met Gln Arg Asp Ile Tyr Arg Val Arg Ile Asp Ser
            325                 330                 335
Lys Leu Gln Asp Ser Val Arg Thr Ile Leu Lys Arg Asn Val Arg Asn
            340                 345                 350
Val Pro Val Val Asp Ser Asp Asn Lys Thr Leu Leu Gly Leu Val Thr
    355                 360                 365
Arg Ala Asn Leu Val Asp Ile Val Tyr Asp Ser Ile Trp Gly Glu Leu
    370                 375                 380
Glu Ser Asp Asn Asn Asp Asn His Ser Gly Ile Val Glu Pro Glu Ser
385                 390                 395                 400
Thr Gly Val Glu Thr Pro
            405
```

<210> 4554
<211> 286
<212> PRT

<213> S.epidermidis

<400> 4554
Ser His Asp Ser Ile Trp Asn Ile Cys Thr Ser Ala His Phe Leu Lys
1   5   10   15
Lys Pro Ala Arg Asp Ile Asn Val Leu Pro Asn Thr Thr Cys Leu Gly
            20   25   30
Gly Ile Lys Met Phe Lys Val Val Ile Cys Asp Asp Glu Arg Ile Ile
        35   40   45
Arg Glu Gly Leu Lys Gln Met Val Pro Trp Glu Asp Tyr His Phe Thr
    50   55   60
Thr Val Tyr Thr Ala Lys Asp Gly Val Glu Ala Leu Ser Leu Ile Arg
65   70   75   80
Gln His Gln Pro Glu Leu Val Ile Thr Asp Ile Arg Met Pro Arg Lys
            85   90   95
Asn Gly Val Asp Leu·Leu Asp Asp Ile Lys Asp Leu Asp Cys Gln Ile
            100   105   110
Ile Ile Leu Ser Ser Tyr Asp Asp Phe Glu Tyr Met Lys Ala Gly Ile
        115   120   125
Gln His His Val Leu Asp Tyr Leu Leu Lys Pro Val Asp His Thr Gln
        130   135   140
Leu Glu His Ile Leu Asp Ile Leu Val Gln Arg Leu Leu Glu Arg Pro
145   150   155   160
His Ser Thr Asn Asp Asp Ala Ala Tyr His Thr Ala Phe Gln Pro Leu
            165   170   175
Leu Lys Ile Asp Tyr Asp Asp Tyr Tyr Val Asn Gln Ile Leu Ser Gln
            180   185   190
Ile Lys Gln His Tyr His Lys Lys Val Thr Val Leu Asp Leu Ile Asn
        195   200   205
Pro Ile Asp Val Ser Glu Ser Tyr Ala Met Arg Thr Phe Lys Glu His
    210   215   220
Val Gly Ile Thr Ile Val Asp Tyr Leu Asn Arg Tyr Arg Ile Leu Lys
225   230   235   240
Ser Leu His Leu Leu Asp Gln His Tyr Lys His Tyr Glu Ile Ala Glu
            245   250   255
Lys Val Gly Phe Ser Glu Tyr Lys Met Phe Cys Tyr His Phe Lys Lys
            260   265   270
Tyr Leu His Met Ser Pro Ser Asp Tyr Asn Lys Gln Ser Lys
        275   280   285

<210> 4555
<211> 86
<212> PRT
<213> S.epidermidis

<400> 4555
Cys Asp Asp Ser Ile Asn Ser Gly Lys Thr Val Tyr Ser Phe Thr Leu
1   5   10   15
Asp Asn Val Lys Asn Glu Thr Asn Thr Arg Ser Asn Cys Thr Trp Tyr
            20   25   30
Arg Cys Cys Ile Tyr Phe Tyr Tyr Ser Ile Asn His Tyr Trp Ile Tyr
            35   40   45
Leu Ser Val Ile His Lys Arg Arg Lys Lys Ser Leu Ile Ile Gln Lys
        50   55   60
Asn Cys Ile Arg Glu Thr Glu Leu Trp Asp Glu Pro Gly Thr Gln Ile
65   70   75   80

Asp Val Pro Gly Phe Leu
                85

<210> 4556
<211> 55
<212> PRT
<213> S.epidermidis

<400> 4556
Ala Leu Cys Ser Glu Leu Pro Glu Ala Tyr Asp Thr Phe Thr Val Leu
1   5   10   15
Lys Thr Asp Ala Ala Thr Ile Asp Glu Ala Ser Val Val Leu Pro Ile
            20   25   30
Leu Phe Ile Asn Phe Ile Asn Lys Leu Pro Pro Asn Met Tyr Asp Lys
        35   40   45
Ser Ser Ile Glu Asp Lys Leu
    50   55

<210> 4557
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4557
Ile Ile Ser Ser Thr Met Thr Thr Phe Phe Tyr Phe Tyr Ile Phe Tyr
1   5   10   15
Ile Pro His Leu Ile Ile Ser Leu Asp Met Pro Lys Lys Ile Leu Ser
            20   25   30
Phe Thr Ser Leu Phe Ile Tyr Leu Lys Ile Ser Leu Val His Ile
        35   40   45

<210> 4558
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4558
Ile Lys Ile Ser Phe Tyr Leu Ile Ile Leu Tyr His Phe Ile Val Glu
1   5   10   15
Asn Tyr Lys Asn Phe Tyr Val Val Cys Asp Lys Val Arg Lys His Thr
            20   25   30
Phe Lys Phe Lys Ile Asn Leu Phe Ile
        35   40

<210> 4559
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4559
Leu Val Val Ser Gly Phe Leu Val Cys Asn Ile Thr Val Ile Asp Leu
1   5   10   15
Tyr Asp Asp Cys Leu Asn Ile Lys Ile Lys Ile Cys Ile Ser Lys Thr
            20   25   30
Leu Cys Asn Asn Ile Tyr Lys Leu Lys Phe Ile Ile Ile Leu Arg Arg
        35   40   45

Gly Leu Arg
    50

<210> 4560
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4560
Ala Pro Ser Ser Val Asn Met Gln Pro Trp Arg Ile Ala Val Asp Glu
1   5   10   15
Ser Asp Glu Met Ile Glu Lys Val Met His Ser Phe Gly Phe Asn Ser
            20   25   30
Arg Gln Leu Thr Thr Ser Ser Ala Met
        35   40

<210> 4561
<211> 121
<212> PRT
<213> S.epidermidis

<400> 4561
Asn Ala His Ser Ile Thr Pro Gln Tyr Lys Ile Ser Glu Pro Ile Pro
1   5   10   15
Ala Gln Asn Asn Met Ala Ala His Val Lys Leu Leu Asn Ser Gly Leu
            20   25   30
Ser Val Ala Phe Pro Asn Val Thr Phe Pro Tyr Leu Pro Asn Ala Met
        35   40   45
Tyr Lys Thr Lys Gln Asn Ile Ala Ser Pro Ile Lys Arg Tyr Thr Asp
    50   55   60
Pro Ile Glu Leu Glu Met Ala Leu Leu Ile Ser Val Met Ile Ile Ser
65   70   75   80
Leu Ala Phe Gly Lys Thr Ile Ile Gly Ile Thr Ala Lys Ser Asn Thr
            85   90   95
Met Thr Thr Pro Met Lys Val Val Gln Ser Ile Thr Phe Ser Phe Phe
            100   105   110
Lys Cys Asp Pro Pro Asn Ile Asn Leu
        115   120

<210> 4562
<211> 738
<212> PRT
<213> S.epidermidis

<400> 4562
Tyr Phe Arg Leu Val His Asn Lys Asp Lys Leu Met Arg Cys Met Tyr
1   5   10   15
Ser Met Gln Thr Arg Leu Gly Glu Lys Asp Ile Asn Leu Pro Gln Tyr
            20   25   30
Tyr Asn Asn Arg Glu Leu Ser Trp Leu Asp Phe Asn Tyr Arg Val Leu
        35   40   45
Gln Glu Ser Tyr Asp Lys Asn Asn Pro Leu Leu Glu Lys Leu Asn Phe
    50   55   60
Ile Ser Ile Phe Ser Ser Asn Leu Asp Glu Phe Phe Met Val Arg Val
65   70   75   80
Ala Gly Leu Lys Asp Gln Val Lys Met Gly Tyr Asp Lys Pro Glu Asn

```
                     85                    90                    95
Lys Ala Gln Met Thr Pro Gln Glu Gln Leu Asp Ala Ile Lys Ile Lys
            100                   105                   110
Asn Thr Asp Tyr Val Asn Thr Gln Tyr Gln Arg Tyr Asn Glu Leu Ile
            115                   120                   125
Lys Glu Leu Ala Asn Tyr Asp Ile Glu Met Val Lys Pro Glu Asp Leu
            130                   135                   140
Ser Asp Ala Leu Ile Glu Lys Leu Glu Gln Glu Phe Lys Leu Ser Val
145                   150                   155                   160
Leu Pro Thr Leu Thr Pro Leu Gly Ile Asp Ala Tyr His Pro Phe Pro
                  165                   170                   175
Lys Leu Asn Asn Lys Ser Leu Asn Ile Phe Val Asp Ile Asp Thr Glu
            180                   185                   190
Asp Ala Ile Asn Ser Ala Ile Val Gln Ile Pro Ser Leu Ile Pro Arg
            195                   200                   205
Phe Leu Thr Leu Asn Glu Gly Thr Lys Gln Tyr Val Val Met Val Glu
            210                   215                   220
Asp Val Ile Thr Tyr Phe Ile Asn Tyr Leu Phe Thr Gly Tyr Glu Val
225                   230                   235                   240
Leu Asn Thr Phe Thr Phe Arg Ile Thr Arg Asn Ala Asp Leu Thr Ile
                  245                   250                   255
His Glu Asp Gly Ala Glu Asp Leu Leu Ile Glu Ile Glu Arg Phe Leu
            260                   265                   270
Lys Glu Arg Lys Ser Gly Ser Ala Val Arg Leu Glu Leu Asp Cys Arg
            275                   280                   285
Thr Ser Glu Lys Glu Asn Val Glu Trp Leu Ile Asn Gln Leu Glu Ile
            290                   295                   300
Glu Asp Asn Asp Ile Tyr Tyr Leu Asp Gly Pro Leu Asp Leu Thr Phe
305                   310                   315                   320
Leu Phe Gly Leu Val Asp His Leu Ser His Lys Leu Lys Tyr Leu Thr
                  325                   330                   335
Tyr Glu Lys Tyr Thr Pro Gln Pro Pro Arg Ser Leu Gly Asn Lys Asn
            340                   345                   350
Ile Tyr Gln Leu Ser Leu Glu Arg Asp Ile Phe Phe His His Pro Tyr
            355                   360                   365
Glu Ser Phe Glu Pro Ile Val Asp Phe Ile Arg Gln Ala Ala Asp Asp
            370                   375                   380
Pro Asn Thr Ile Ala Ile Lys Gln Thr Leu Tyr Arg Val Ser Lys Asp
385                   390                   395                   400
Ser Pro Ile Ile Asn Ser Leu Lys Glu Ala Ala Glu Asn Gly Lys Gln
                  405                   410                   415
Val Thr Val Leu Val Glu Leu Lys Ala Arg Phe Asp Glu Glu Asn Asn
            420                   425                   430
Val His Trp Ala Arg Met Leu Glu Asp Ala Gly Cys His Val Ile Tyr
            435                   440                   445
Gly Met Thr His Leu Lys Thr His Ser Lys Ile Ala Leu Val Val Lys
            450                   455                   460
Arg Ile Asn Asn Glu Leu Thr Ser Phe Val His Leu Gly Thr Gly Asn
465                   470                   475                   480
Tyr Asn Asp Lys Thr Ala Lys Leu Tyr Thr Asp Met Gly Ile Ile Thr
                  485                   490                   495
Thr Asn Lys Asp Ile Ala Glu Asp Ala Ile Asn Phe Phe Asn Tyr Leu
            500                   505                   510
Ser Gly Tyr Ser Thr Lys Pro Glu Tyr Asn Lys Leu Ile Val Ala Pro
            515                   520                   525
Tyr Asp Ile Arg Asp Val Phe Ile Asp Arg Ile Asp Lys Glu Ile Arg
```

```
            530                 535                 540
Ser His Leu Gln His Gly Asn Gly Lys Ile Met Met Lys Met Asn Ser
545                 550                 555                 560
Leu Thr Asp Lys Thr Ile Ile Glu Lys Leu Phe Glu Ala Ser Gln Ala
                565                 570                 575
Gly Val Lys Ile Gln Leu Ile Ile Arg Gly Ile Cys Cys Leu Lys Pro
            580                 585                 590
Gly Ile Pro Gly Ile Ser Glu Asn Ile Glu Val Val Ser Ile Val Gly
            595                 600                 605
Arg Leu Leu Glu His Ser Arg Ile Tyr Tyr Phe His Asn Asn Ser Glu
        610                 615                 620
Ala His Ile Tyr Leu Ser Ser Ala Asp Val Met Thr Arg Asn Met Ile
625                 630                 635                 640
Lys Arg Val Glu Ile Leu Phe Pro Val Glu Asp Lys Ser Ile Gly Gln
                645                 650                 655
Arg Leu Val Asn Tyr Met Asn Leu Gln Leu Ser Asp Asn Gln Lys Gly
                660                 665                 670
Arg Tyr Gln Asp Ala Gln Gly Leu Tyr His Tyr Val Glu Asn Asn Ser
            675                 680                 685
Ser Pro Leu Asn Ser Gln Ser Tyr Leu Met Gln Glu Ala Ile Lys Tyr
        690                 695                 700
Gly Glu Glu Leu Lys Lys Gln Ser Val Gln Pro Ser Gly Gln Pro Val
705                 710                 715                 720
His Ser Arg Arg Gly Gly Ser Trp Met Arg Lys Leu Lys Asn Thr Phe
                725                 730                 735
Lys Arg
```

<210> 4563
<211> 196
<212> PRT
<213> S.epidermidis

<400> 4563
```
Thr Ala Ile Ser Phe Lys Arg Gly Lys Leu Ile Met Asn Ile Tyr Asn
1               5                   10                  15
Lys Val Thr Leu Ser Val Ile Leu Val Ile Thr Ile Ile Ile Ser Phe
            20                  25                  30
Leu Phe Tyr Phe Tyr Thr Thr Glu Lys Lys Val Asp Lys Asp Lys Leu
        35                  40                  45
Tyr Glu Asn Lys Ile Thr Asn His Lys Gln Ala Gly Lys Pro Lys Asn
    50                  55                  60
Tyr Gly Val Ala Ser Asn Asn Lys Ile Ala Thr Lys Val Gly Asn Lys
65                  70                  75                  80
Ile Ile Glu Asp Gly Gly Asn Ala Val Asp Ala Ala Ile Gly Val Ser
            85                  90                  95
Tyr Ala Leu Ala Val Thr Glu Pro His Ser Ser Gly Leu Gly Gly Gly
        100                 105                 110
Gly Ala Thr Leu Thr Tyr Asn Gly Lys Glu Asn Glu Thr Pro Lys Ala
        115                 120                 125
Tyr Glu Tyr Lys Thr Met Ser Ser Tyr Glu Tyr Lys Glu Gly Asp Lys
    130                 135                 140
Ile Gly Val Pro Gly Phe Val Arg Gly Leu His Asp Met His Ala Lys
145                 150                 155                 160
Glu Gly Lys Met Asp Glu Lys Lys Ile Leu Asp Tyr Val Ile Pro Leu
                165                 170                 175
```

Ala Lys Asp Gly Phe Glu Val Asp Ser Glu Leu Val Lys Lys Phe Glu
            180   185   190
Ile Ile Trp Ser
            195

<210> 4564
<211> 63
<212> PRT
<213> S.epidermidis

<400> 4564
Tyr Leu Val Ser Thr Tyr Leu Ile Lys Pro Leu Glu Thr Glu Phe Lys
1   5   10   15
Gln Ser Leu Glu Ala Leu Leu Leu Ile Ile Asp Ile Tyr Ala Phe Phe
            20   25   30
Ser Trp Gly Ile Ile Thr Ile Phe Gln Ser Val Leu Phe Asn Phe Asn
            35   40   45
Glu Leu Phe Arg Val Arg Asn Asn Arg Trp Glu Asn Asn Lys Phe
        50   55   60

<210> 4565
<211> 76
<212> PRT
<213> S.epidermidis

<400> 4565
Phe Glu Val Ser Phe Cys Leu Phe Leu Arg Leu Cys Ser Ile Phe Leu
1   5   10   15
Ser Phe Leu Leu Glu Phe Val Trp Trp Leu Ile Ala Ala Tyr Asn Glu
            20   25   30
Lys Pro Asn Ala His Ile Arg Met Ile Thr Thr Ile Val Ala Glu Asn
            35   40   45 ·
Phe Phe Lys Ala Tyr Ile Leu His Pro Phe Tyr Gln Leu Tyr Phe Ile
        50   55   60
Ile Ile Leu Phe Phe Ile Val Ser Arg Ile Ile Leu
65   70   75

<210> 4566
<211> 248
<212> PRT
<213> S.epidermidis

<400> 4566
Lys Arg Val Ser Leu Met Ile Glu Leu Ser His Ile His Lys Ser Phe
1   5   10   15
Asn Glu Thr Glu Val Ile Lys Gly Ile Asp Leu Lys Ile Asn Gln Gly
            20   25   30
Glu Val Val Thr Leu Ile Gly Arg Ser Gly Ser Gly Lys Thr Thr Leu
            35   40   45
Leu Arg Met Ile Asn Ala Leu Glu Ile Pro Thr Glu Gly Thr Val Tyr
        50   55   60
Val Asn Gly Met Thr Tyr Asn Thr Lys Asp Lys Lys Ser Gln Ile Lys
65   70   75   80
Val Arg Gln Gln Ser Gly Met Val Phe Gln Asn Tyr Asn Leu Phe Pro
                85   90   95
His Lys Ser Ala Leu Glu Asn Val Met Glu Gly Leu Ile Thr Val Lys

```
            100                    105                    110
Lys Met Asn Lys Ala Thr Ala Asn Glu Glu Ala Met Asn Leu Leu Ala
            115                    120                    125
Lys Val Gly Leu Val His Val Lys Asp Gln Arg Pro His Ala Leu Ser
    130                    135                    140
Gly Gly Gln Gln Gln Arg Val Ala Ile Ala Arg Ala Leu Ala Met Asn
145                    150                    155                    160
Pro Lys Val Met Leu Phe Asp Glu Pro Thr Ser Ala Leu Asp Pro Glu
                165                    170                    175
Leu Val Asn Asp Val Leu Lys Val Ile Lys Glu Leu Ala Asp Glu Gly
                180                    185                    190
Met Thr Met Val Ile Val Thr His Glu Met Arg Phe Ala Lys Glu Val
            195                    200                    205
Ser Asn Gln Ile Ala Phe Ile His Glu Gly Val Ile Ala Glu Gln Gly
        210                    215                    220
Thr Pro Glu Asp Ile Phe Asn His Pro Lys Thr Glu Glu Leu Gln Arg
225                    230                    235                    240
Phe Leu Asn Val Ile Asn Glu Lys
                245
```

<210> 4567
<211> 129
<212> PRT
<213> S.epidermidis

<400> 4567

```
Ile Ala Gly Phe Val Leu His Cys Ile Lys Phe His Ile Asn Lys Pro
1               5                    10                    15
Thr Asn Asn Asn Pro Val Pro Gly Asn Asn Lys Leu Arg Ile Ile Ile
                20                    25                    30
Ile Ile Ile Asn Ile Glu Ile Glu Ile Ile Asn Gln Arg Leu Leu Val
            35                    40                    45
Asn Leu Ser Asp Lys Thr Pro Pro Asn Glu Val Pro Ile Thr Pro Ala
        50                    55                    60
Thr Pro Leu Thr Ser Ser Ala Lys Asp Thr Lys Asp Ile Ser Cys Pro
65                    70                    75                    80
Leu Asp Lys Ile Asn Gly Leu Ile Asn Thr Asn Val Thr Glu Leu Ala
                85                    90                    95
Thr Ser Thr Lys Asn Val Ile Ile Arg Tyr Leu Lys Thr Ser Arg Gly
            100                    105                    110
Leu Met Thr Leu Glu Pro Val Cys Asp Ser Ile Leu Asp Glu Arg Gly
        115                    120                    125
Val
```

<210> 4568
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4568

```
Leu Asn Gly Phe Ile Phe Leu Met Leu Ile Ser Ile Ile Phe Val Leu
1               5                    10                    15
Arg Arg Asn Ser Phe Leu Leu Ile Leu Val Asn Tyr Ile Asn His Lys
                20                    25                    30
Ile Asn Tyr Ile Lys Phe Ser Phe Val Met Thr Ile Thr Lys Asn Asn
```

```
         35                    40                    45
Phe


<210> 4569
<211> 466
<212> PRT
<213> S.epidermidis


<400> 4569
Met Asn Thr Ser Gln Lys Phe Arg Gly Asp Asn Arg Leu Leu Leu Gly
1               5                   10                  15
Ile Ile Leu Gly Val Ile Thr Phe Trp Leu Phe Ala Gln Ser Leu Val
            20                  25                  30
Asn Leu Val Val Pro Leu Gln Ser Ser Tyr Asn Ser Asp Ile Gly Thr
        35                  40                  45
Ile Asn Ile Ala Val Ser Leu Ser Ala Leu Phe Ser Gly Leu Phe Ile
    50                  55                  60
Val Gly Ala Gly Asp Ile Ala Asp Lys Ile Gly Arg Val Lys Val Thr
65                  70                  75                  80
Tyr Ile Gly Leu Ala Leu Asn Ile Val Gly Ser Val Leu Ile Ile Ile
                85                  90                  95
Thr Pro Leu Pro Ser Leu Leu Ile Ile Gly Arg Ala Ile Gln Gly Leu
            100                 105                 110
Ser Ala Ala Cys Ile Met Pro Ala Thr Leu Ala Ile Ile Asn Glu Tyr
            115                 120                 125
Tyr Ile Gly Thr Ala Arg Gln Arg Ala Leu Ser Tyr Trp Ser Ile Gly
        130                 135                 140
Ser Trp Gly Gly Ser Gly Val Cys Thr Leu Phe Gly Gly Leu Met Ala
145                 150                 155                 160
Thr Asn Leu Gly Trp Arg Ser Ile Phe Ile Val Ser Ile Ile Leu Thr
                165                 170                 175
Ile Leu Ser Met Phe Leu Ile Lys His Thr Pro Glu Thr Lys Ala Glu
            180                 185                 190
Pro Ile Gly Asp Gln Pro Thr Glu Thr Lys Lys Phe Asp Val Val Gly
        195                 200                 205
Leu Ile Ile Leu Val Val Ser Met Leu Ser Ile Asn Val Ile Ile Thr
    210                 215                 220
Gln Thr Ser Gln Phe Gly Leu Phe Ser Pro Phe Ile Leu Gly Leu Ile
225                 230                 235                 240
Ala Ile Phe Val Ile Ser Leu Ile Ile Phe Val Ile Tyr Glu Asn Lys
                245                 250                 255
Ile Lys Gln Pro Leu Val Asp Phe Asp Ile Phe Lys Asn Lys Gly Tyr
            260                 265                 270
Thr Gly Ala Thr Ile Ser Asn Phe Met Leu Asn Gly Val Ala Gly Gly
            275                 280                 285
Thr Leu Ile Val Val Asn Thr Phe Tyr Gln Gln Lys Leu Asp Phe Asn
        290                 295                 300
Ser Gln Glu Thr Gly Tyr Ile Ser Leu Thr Tyr Leu Ile Ala Val Leu
305                 310                 315                 320
Ile Met Ile Arg Val Gly Glu Met Ile Leu Gln Ser Leu Gly Pro Lys
                325                 330                 335
Arg Pro Leu Leu Leu Gly Ser Ala Leu Thr Val Ile Gly Leu Ile Leu
            340                 345                 350
Leu Ser Leu Thr Phe Leu Pro Asn Ala Trp Tyr Ile Ala Ser Ser Val
            355                 360                 365
```

```
Ile Gly Tyr Leu Leu Phe Gly Thr Gly Leu Gly Val Tyr Ala Thr Pro
    370                 375             380
Ser Thr Asp Thr Ala Val Ala Gln Ala Pro Asp Asp Lys Val Gly Val
385                 390             395                 400
Ala Ser Gly Val Tyr Lys Met Ala Ser Ser Leu Gly Asn Ala Phe Gly
                405             410             415
Val Ala Ile Ser Ser Thr Val Tyr Ser Val Leu Ala Ala Gln Leu Asn
                420             425             430
Leu Thr Leu Gly Gly Phe Thr Gly Val Met Phe Asn Ala Leu Ile Ala
        435             440             445
Leu Leu Ala Phe Leu Ser Ile Leu Phe Leu Ile Pro Lys Lys Gln Ser
    450                 455              .460
Asn Val
465


<210> 4570
<211> 42
<212> PRT
<213> S.epidermidis


<400> 4570
Ile Gln Thr Ser Ser Trp Leu Asn Ile Arg Lys Val Thr Ala Gln Arg
1               5               10              15
Ala Glu Asn Asn Gln Lys Asn Tyr Lys Lys Asp Asn Phe Tyr Ile Ile
            20              25              30
Ser Ile Glu Ile Val Phe Phe Tyr Leu Ser
        35              40


<210> 4571
<211> 57
<212> PRT
<213> S.epidermidis


<400> 4571
Val Gln Thr Ser Ser Trp Leu Asn Ile Arg Lys Val Thr Ala Gln Arg
1               5               10              15
Ala Glu Asn His Gln Lys Asn Tyr Lys Lys Asp Asn Phe Tyr Ile Ile
            20              25              30
Ser Ile Glu Ile Val Phe Ile Tyr Leu Ser Trp Thr Phe Leu Ser Gln
        35              40              45
Pro Leu Ser Tyr Ser Met Leu Ser Gln
    50              55


<210> 4572
<211> 54
<212> PRT
<213> S.epidermidis


<400> 4572
Asn Phe Gln Ser Ile Leu Cys Leu Lys Thr Ser Leu Lys Pro Val Asp
1               5               10              15
Ile Phe Ser Glu Val Asp Val Leu Tyr Ser Lys Met Ile Phe Ile Glu
            20              25              30
Arg Cys Thr Leu Ser Ala Tyr Ile Pro Pro Asn Leu Ser Lys Cys Ile
        35              40              45
Ile Ser Lys Tyr Asn Leu
```

50

```
<210> 4573
<211> 43
<212> PRT
<213> S.epidermidis


<400> 4573
Lys Cys Lys Ser Asn Leu Asn Ile Thr Leu Met Glu Ser Leu Arg Pro
1               5                   10                  15
His Arg Val Ser Trp Ala Phe Ser Met Ile Ser Gly Gln Gly Arg Leu
            20                  25                  30
Ser Ile Val Leu Phe Gln Val Ala Leu Thr Leu
        35                  40


<210> 4574
<211> 274
<212> PRT
<213> S.epidermidis


<400> 4574
Ile Gly Gly Leu Thr Met Ile Lys Ala Ile Ala Val Asp Met Asp Gly
1               5                   10                  15
Thr Phe Leu Asp Thr Asn Lys Gln Phe Asp Arg Asn Arg Phe Glu Thr
            20                  25                  30
Ile Phe Lys Glu Leu Ile Asp Lys Asn Ile Lys Phe Ile Ala Ala Ser
            35                  40                  45
Gly Asn Gln Phe Ala Lys Leu Lys Ser Ile Phe Gly Asp Arg Glu Met
        50                  55                  60
Phe Phe Ile Ser Glu Asn Gly Ala Val Ile Tyr Lys Gly Asn Gln Leu
65                  70                  75                  80
Tyr Asn Tyr Arg Ser Phe Asp Gln Tyr Ile Phe Gln Lys Val Val Asn
                85                  90                  95
Tyr Leu Asn Leu Asn Gln Lys Ile Asn Asn Leu Ile Ile Cys Gly Val
            100                 105                 110
Lys Ser Ala Tyr Ile Leu Lys Glu Thr Ser Glu Ala Phe Lys Gln Asp
        115                 120                 125
Ala Arg Thr Tyr Tyr His Gln Leu Ile Glu Val Asp Ser Leu Gln Thr
        130                 135                 140
Leu Pro Asp Asp Asp Tyr Val Lys Ile Ala Phe Asn Ile Asn Arg Gln
145                 150                 155                 160
Thr His Pro Asp Leu Asp Glu Lys Leu Ala Leu Lys Phe Lys Asp Asp
                165                 170                 175
Ile Lys Leu Val Ser Ser Gly Arg Asp Ser Ile Asp Val Ile Met Pro
                180                 185                 190
Asn Met Thr Lys Gly Gln Ala Leu Ser Arg Leu Leu Lys Glu Trp Gln
            195                 200                 205
Met Pro Ala Ser His Leu Met Ala Phe Gly Asp Ala Asn Asn Asp Lys
        210                 215                 220
Asp Met Leu Glu Leu Ala Glu His Ser Tyr Val Met Ala Asn Ser Glu
225                 230                 235                 240
Asp Gln Ser Leu Phe Asp Ile Ala Ser His Val Ala Pro Ser Asn Asp
                245                 250                 255
Glu Gln Gly Val Leu Ser Thr Ile Glu Asn Val Val Leu Gly Tyr Ser
            260                 265                 270
Asn Lys
```

<210> 4575
<211> 521
<212> PRT
<213> S.epidermidis

<400> 4575
Leu Ser Glu Ser Ala Asn Ser Phe Tyr Leu His Val Asp Asp Phe Leu
1   5   10   15
Ile Arg Ile Val Lys Glu Cys Leu Leu Thr His Val Asn Ser Lys Leu
            20   25   30
Met Leu Trp Arg Phe Val Met Gly Ser Phe Phe Asn Arg Met Thr Arg
        35   40   45
Lys Glu Asn Pro Thr Ile Tyr Gln Ser Lys Asp Gly His Leu Lys Arg
        50   55   60
Thr Leu Arg Val Arg Asp Phe Leu Ala Leu Gly Val Gly Thr Ile Val
65   70   75   80
Ser Thr Ser Ile Phe Thr Leu Pro Gly Val Val Ala Ala Glu His Ala
                85   90   95
Gly Pro Ala Val Ser Leu Ser Phe Leu Leu Ala Ala Ile Val Ala Gly
            100   105   110
Leu Val Ala Phe Thr Tyr Ala Glu Met Ala Ser Thr Met Pro Phe Ala
            115   120   125
Gly Ser Ala Tyr Ser Trp Ile Asn Val Leu Phe Gly Glu Leu Phe Gly
        130   135   140
Trp Val Ala Gly Trp Ala Leu Leu Ala Glu Tyr Phe Ile Ala Val Ala
145   150   155   160
Phe Val Ala Ser Gly Phe Ser Ala Asn Leu Arg Gly Leu Ile Ala Pro
                165   170   175
Leu Gly Ile Ser Leu Pro Lys Ser Leu Ser Asn Pro Phe Gly Ser Asn
            180   185   190
Gly Gly Val Ile Asp Ile Ile Ala Ala Val Val Ile Ile Leu Thr Ala
            195   200   205
Leu Leu Leu Ser Arg Gly Met Asn Glu Ala Ala Arg Met Glu Asn Val
        210   215   220
Leu Val Ile Leu Lys Val Leu Ala Ile Ile Leu Phe Val Ile Val Gly
225   230   235   240
Leu Thr Ala Ile Asn Phe Ser Asn Tyr Ile Pro Phe Ile Pro Glu His
                245   250   255
Lys Val Thr Glu Thr Gly Asp Phe Gly Gly Trp Gln Gly Ile Tyr Ala
            260   265   270
Gly Val Ser Met Ile Phe Leu Ala Tyr Ile Gly Phe Asp Ser Ile Ala
            275   280   285
Ala Asn Ser Ala Glu Ala Ile Asn Pro Gln Lys Thr Met Pro Arg Gly
        290   295   300
Ile Leu Gly Ser Leu Ile Val Ala Ile Val Leu Phe Val Ala Val Ala
305   310   315   320
Leu Val Leu Val Gly Met Phe His Tyr Ser Gln Tyr Ala Asp Asn Ala
            325   330   335
Glu Pro Val Gly Trp Ala Leu Arg Glu Ser Gly His Gly Ile Ile Ala
            340   345   350
Ala Ile Val Gln Ala Ile Ser Val Ile Gly Met Phe Thr Ala Leu Ile
            355   360   365
Gly Met Met Leu Ala Gly Ser Arg Leu Leu Tyr Ser Phe Gly Arg Asp
        370   375   380

Gly Leu Leu Pro Ser Trp Leu Ser Gln Leu Asn His Lys His Leu Pro
385   390   395   400
Asn Arg Ala Leu Ala Ile Leu Thr Ile Ile Gly Val Val Ile Gly Ser
                405   410   415
Met Phe Pro Phe Ala Phe Leu Ala Gln Leu Ile Ser Ala Gly Thr Leu
                420   425   430
Val Ala Phe Met Phe Val Ser Leu Ala Met Tyr Arg Leu Arg Lys Arg
                435   440   445
Glu Gly Lys Asp Leu Pro Lys Pro Glu Phe Lys Leu Pro Leu Tyr Pro
                450   455   460
Ile Leu Pro Ala Ile Thr Phe Ile Leu Val Leu Leu Val Phe Trp Gly
465   470   475   480
Leu Ser Phe Glu Ala Lys Leu Tyr Thr Leu Ile Trp Phe Ile Val Gly
                485   490   495
Ile Ile Ile Tyr Leu Ile Tyr Gly Ile Arg His Ser Lys Lys Asn Asp
                500   505   510
Glu Glu Ala Tyr Gln Val Pro Arg Lys
                515   520

<210> 4576
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4576
Val His Leu Ser Tyr Ser Phe Pro Pro Phe Leu Arg Tyr Ile Ile Ser
1   5   10   15
Ile Lys Leu Ile Asn Asn Leu Val Arg Asp Asp Tyr His Met Leu Asn
                20   25   30
Val Lys Ser Phe Ala Thr Phe Gly Tyr Ser Ile His Asn Cys Val
                35   40   45

<210> 4577
<211> 66
<212> PRT
<213> S.epidermidis

<400> 4577
Ile Ala Leu Ser Ser Ala Phe Ser Leu Ala Asn Met Ile Val Lys Ile
1   5   10   15
Thr Val Met Val Ala Asn Ile Pro Pro Met Arg Ile Ala Asp Pro Arg
                20   25   30
Lys Ser Ala Ser Ser Gly Ala Ile Gly Lys Phe Ile Asp Lys Gln Asn
                35   40   45
Val Thr Lys Lys Asn Val Asp Asp Gly Pro Ala Ile Phe Ser Ala Leu
                50   55   60
Asn Val
65

<210> 4578
<211> 103
<212> PRT
<213> S.epidermidis

<400> 4578
Tyr Asn Met Ser Phe Asn Ile Trp Met Trp Ile Leu Leu Val Leu Phe

```
1                   5                          10                         15
Ile Val Gly Thr Ile Ala Val Ile Leu Ile Leu Thr Val Gly Ser Val
                    20                         25                         30
Leu Glu Glu Arg Ser Tyr Asp Arg Arg Ser Glu Asp Glu Lys Arg Lys
        35                         40                         45
Asn Leu Glu Lys Asn Leu Glu Met Ser Lys Gly His Thr Asp Val Ser
    50                         55                         60
Gln Glu Ser Ser Asn Gly Glu Glu Gln Val Thr Gln Glu His Ser Gln
65                         70                         75                         80
His Val Val Gln Asp His Gln Gln Thr His Gln Asn Ile Asn Gln Ser
                    85                         90                         95
Thr Gln Asp Asn Arg Asn Asn
                100
```

<210> 4579
<211> 74
<212> PRT
<213> S.epidermidis

<400> 4579
```
Leu Tyr Ala Ser Gly Val Lys Val Ala Ile Pro Val Leu Gly Ser Tyr
1                   5                          10                         15
Val Ala Asp Pro Asp Arg Phe Ile Cys Ser Leu Lys Leu Ser Leu Phe
                    20                         25                         30
Thr Thr Thr Glu Leu Asp Val Arg Leu Glu Val Val Val Val Asp Val
        35                         40                         45
Val Val Gly Ala Ala Ile Val Phe Lys Thr Val Asn Leu Leu Asn Val
    50                         55                         60
Leu Lys Phe Ala Lys Glu Val Gly Leu Asp
65                         70
```

<210> 4580
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4580
```
Tyr Pro Lys Ser Thr Leu Tyr Ser Pro Ser Lys Cys Leu His Phe Thr
1                   5                          10                         15
Ser Asn Val Pro Pro Ile Gly Ile Gln Val Asn Tyr Leu Ala Tyr Ile
                    20                         25                         30
Leu Trp Asp Ser Ile Met Cys Tyr Leu
        35                         40
```

<210> 4581
<211> 485
<212> PRT
<213> S.epidermidis

<400> 4581
```
His Leu Thr Leu Thr Tyr Ile Glu Gly Glu Thr Met Ser Gly Lys Leu
1                   5                          10                         15
Glu Glu Leu Gln Leu Lys Val Ala Arg Leu Ser Arg Arg Thr His Glu
                    20                         25                         30
Leu Gly Ile Pro Ile Met Val Leu Phe Glu Gly Ile Pro Ala Ser Gly
        35                         40                         45
```

```
Lys Thr Arg Leu Ser Asn Glu Leu Leu Leu His Leu Asp Ala Lys Tyr
    50                  55                  60
Ser Arg Phe Ile Ala Thr Lys Ser Pro Glu Ser Asn Asp Leu Arg Tyr
65                  70                  75                  80
Gln Phe Leu Gln Lys Tyr Trp Asn Thr Leu Pro Gln Lys Gly Asn Ile
                85                  90                  95
Asn Ile Tyr Phe Arg Ser Trp Tyr Ser His Phe Leu Asp Tyr Lys Glu
            100         .       105                 110
Asn Lys Ile Lys His Asp Gln Tyr Lys Asn Tyr Asp Val Leu Val Asn
        115                 120                 125
Gln Ile Tyr His Phe Glu Ser Met Leu Lys Asn Asp Asn Tyr Glu Ile
    130                 135                 140
Ile Lys Phe Phe Ile Glu Ile Asn Glu Glu Lys Arg Asn Glu His Ile
145                 150                 155                 160
Gln Gln Thr Lys Asp Asn Pro Leu Thr Arg Trp Lys Val Gln Glu Tyr
                165                 170                 175
Glu Asn Val Ile Pro Gln Glu Ser Tyr Leu Asn Gln Met His Gln Phe
                180                 185                 190
Ile Asn Lys Asp Lys Asp Trp Lys Val Ile Asp Tyr Thr Glu Arg Glu
            195                 200                 205
His Ala Phe Glu Lys Met Tyr Leu His Leu Ile Asp Arg Leu Glu Gln
    210                 215                 220
Ala Ile Lys Lys Val Glu Gln Gln Thr Thr Lys Val Asn Gly Lys Phe
225                 230                 235                 240
Thr Ser Ser Phe Thr Thr Ser Leu Phe Asn Asn Asn Leu Glu Lys Val
                245                 250                 255
Asp Lys Lys Thr Tyr Lys Asn Leu Ile Val Glu Leu Gln Gln Arg Met
            260                 265                 270
Arg Glu Ile Gln Phe Ala Leu Tyr Glu Arg Lys Ile Pro Leu Val Leu
    275                 280                 285
Val Phe Glu Gly Met Asp Ala Ala Gly Lys Gly Gly Asn Ile Lys Arg
    290                 295                 300
Ile Arg Glu Lys Leu Asp Pro Thr Gly Tyr Glu Val Asn Gly Ile Ser
305                 310                 315                 320
Ala Pro Thr Asp Val Glu Leu Lys His His Tyr Leu Trp Arg Phe Ala
                325                 330                 335
Lys Lys Met Pro Lys Ser Gly His Ile Lys Ile Phe Asp Arg Ser Trp
            340                 345    .            350
Tyr Gly Arg Val Leu Val Glu Arg Val Glu Gly Phe Ala Ser Gln Asn
            355                 360                 365
Glu Trp Gln Arg Ala Ser Asp Glu Ile Asn Gln Phe Glu Lys Met Trp
    370                 375                 380
Thr Asp Glu Gly Thr Ile Ile Leu Lys Phe Phe Leu Cys Leu Asp Lys
385                 390                 395                 400
Asp Glu Gln Leu Lys Arg Phe Lys Asp Arg Glu Asn Asn Pro Asp Lys
                405                 410                 415
Gln Trp Lys Ile Thr Glu Glu Asp Trp Arg Asn Arg Glu Lys Trp Asp
            420                 425                 430
Glu Tyr Leu Glu Ala Ser His Asp Met Ile Glu Ser Thr Asn Thr Ser
            435                 440                 445
Tyr Ala Pro Trp Tyr Ile Val Pro Ala Asp His Lys Lys Thr Ser Arg
    450                 455                 460
Ile Glu Val Leu Lys Thr Ile Ile Arg Lys Cys Glu Glu Val Leu Trp
465                 470                 475                 480
Gly Val Lys Thr Tyr
            485
```

<210> 4582
<211> 436
<212> PRT
<213> S.epidermidis

<400> 4582
```
Phe Lys Thr Phe His Asn Phe Cys Lys Ala Leu Thr Tyr Leu Leu Tyr
1               5                   10                  15
Ile Pro Gly His Val Cys Tyr Ile Ser Leu Tyr Lys Thr Asn Phe Leu
            20                  25                  30
Trp Tyr Asp Thr Ser Ala Thr Ser Lys Asn Glu Arg Met Ser His Leu
        35                  40                  45
Met Asn Ile Gly Ile Asp Lys Ile Ser Phe Tyr Val Pro Lys Tyr Tyr
    50                  55                  60
Val Asp Met Ala Lys Leu Ala Glu Ala Arg Gln Val Asp Pro Asn Lys
65                  70                  75                  80
Phe Leu Ile Gly Ile Gly Gln Thr Glu Met Ala Val Ser Pro Val Asn
                85                  90                  95
Gln Asp Ile Val Ser Met Gly Ala Asn Ala Ala Lys Asp Ile Ile Thr
            100                 105                 110
Glu Glu Asp Lys Lys Asn Ile Gly Met Val Ile Val Ala Thr Glu Ser
            115                 120                 125
Ala Ile Asp Asn Ala Lys Ala Ala Ala Val Gln Ile His His Leu Leu
    130                 135                 140
Gly Ile Gln Pro Phe Ala Arg Cys Phe Glu Met Lys Glu Ala Cys Tyr
145                 150                 155                 160
Ala Ala Thr Pro Ala Ile Gln Leu Ala Lys Asp Tyr Leu Ala Gln Arg
                165                 170                 175
Pro Asn Glu Lys Val Leu Val Ile Ala Ser Asp Thr Ala Arg Tyr Gly
                180                 185                 190
Ile His Ser Gly Gly Glu Pro Thr Gln Gly Ala Gly Ala Val Ala Met
            195                 200                 205
Met Ile Ser His Asn Pro Ser Ile Leu Lys Leu Asn Asp Asp Ala Val
    210                 215                 220
Ala Tyr Thr Glu Asp Val Tyr Asp Phe Trp Arg Pro Thr Gly His Gln
225                 230                 235                 240
Tyr Pro Leu Val Ala Gly Ala Leu Ser Lys Asp Ala Tyr Ile Lys Ser
                245                 250                 255
Phe Gln Glu Ser Trp Asn Glu Tyr Ala Arg Arg His Asn Lys Thr Leu
                260                 265                 270
Ala Asp Phe Ala Ser Leu Cys Phe His Val Pro Phe Thr Lys Met Gly
            275                 280                 285
Gln Lys Ala Leu Asp Ser Ile Ile Asn His Ala Asp Glu Thr Thr Gln
    290                 295                 300
Asp Arg Leu Asn Ser Ser Tyr Gln Asp Ala Val Asp Tyr Asn Arg Tyr
305                 310                 315                 320
Val Gly Asn Ile Tyr Thr Gly Ser Leu Tyr Leu Ser Leu Ile Ser Leu
            325                 330                 335
Leu Glu Thr Arg Asp Leu Lys Gly Gly Gln Thr Ile Gly Leu Phe Ser
            340                 345                 350
Tyr Gly Ser Gly Ser Val Gly Glu Phe Phe Ser Gly Thr Leu Val Asp
            355                 360                 365
Gly Phe Lys Glu Gln Leu Asp Val Glu Arg His Lys Ser Leu Leu Asn
    370                 375                 380
Asn Ser Ile Glu Val Ser Val Asp Glu Tyr Glu His Phe Phe Lys Arg
```

```
385                     390                     395                     400
Phe Asp Gln Leu Glu Leu Asn His Glu Leu Glu Lys Ser Asn Ala Asp
                405                     410                     415
Arg Asp Ile Phe Tyr Leu Lys Ser Ile Asp Asn Asn Ile Arg Glu Tyr
                420                     425                     430
His Ile Ala Glu
            435


<210> 4583
<211> 696
<212> PRT
<213> S.epidermidis


<400> 4583
Ser Tyr Leu Phe Met Leu Phe Leu Trp His Val Asn Lys Lys Ile Glu
1               5                   10                  15
Arg Asn Glu Leu Ile Met Phe Lys Lys Leu Phe Gly Gln Met Gln Arg
                20                  25                  30
Ile Gly Lys Ala Leu Met Leu Pro Val Ala Ile Leu Pro Ala Ala Gly
            35                  40                  45
Leu Leu Leu Ala Ile Gly Thr Ala Phe Gln Gly Glu Ala Leu Gln His
        50                  55                  60
Tyr Leu Pro Phe Ile Lys Asn Asp Ile Val Gln Gln Ile Ala Asn Met
65                  70                  75                  80
Leu Thr Gly Ala Gly Gly Ile Ile Phe Asp Asn Leu Pro Ile Ile Phe
                85                  90                  95
Ala Leu Gly Val Ala Ile Gly Leu Ala Gly Gly Asp Gly Val Ala Ala
            100                 105                 110
Ile Ala Ala Phe Val Gly Phe Ile Ile Leu Asn Lys Thr Met Gly Ala
            115                 120                 125
Phe Leu His Val Thr Pro Asp Lys Leu Ser Asp Pro Thr Asn Gly Tyr
        130                 135                 140
Ala Asn Val Leu Gly Ile Pro Thr Leu Gln Thr Gly Val Phe Gly Gly
145                 150                 155                 160
Ile Ile Ile Gly Ala Leu Ala Ala Trp Cys Tyr Asn Lys Phe Tyr Asn
                165                 170                 175
Ile Thr Leu Pro Ser Tyr Leu Gly Phe Phe Ala Gly Lys Arg Phe Val
            180                 185                 190
Pro Ile Met Met Ala Thr Thr Ser Phe Ile Leu Ala Phe Pro Met Ala
            195                 200                 205
Ile Ile Trp Pro Thr Ile Gln Asn Gly Leu Asn Ala Phe Ser Glu Gly
        210                 215                 220
Leu Leu Asp Ser Asn Thr Gly Leu Ala Val Phe Leu Phe Gly Phe Ile
225                 230                 235                 240
Lys Arg Leu Leu Ile Pro Phe Gly Leu His His Ile Phe His Ala Pro
                245                 250                 255
Phe Trp Phe Glu Phe Gly Ser Trp Lys Asn Ala Ala Gly Glu Ile Ile
            260                 265                 270
Arg Gly Asp Gln Arg Ile Phe Ile Glu Gln Ile Arg Glu Gly Ala His
        275                 280                 285
Leu Thr Ser Gly Lys Phe Met Gln Gly Glu Phe Pro Val Met Met Phe
        290                 295                 300
Gly Leu Pro Ala Ala Ala Leu Ala Ile Tyr Gln Thr Ala Lys Pro Glu
305                 310                 315                 320
Asn Lys Lys Val Val Ala Gly Leu Met Ile Ser Ala Ala Leu Thr Ser
                325                 330                 335
```

Phe Leu Thr Gly Ile Thr Glu Pro Leu Glu Phe Ser Phe Leu Phe Val
            340   345   350
Ala Pro Phe Leu Phe Val Ile His Ala Val Leu Asp Gly Leu Ser Phe
            355   360   365
Leu Thr Leu Tyr Leu Leu Asn Val His Leu Gly Tyr Thr Phe Ser Gly
        370   375   380
Gly Phe Ile Asp Tyr Val Leu Leu Gly Ile Leu Pro Asn Lys Thr Ala
385   390   395   400
Trp Trp Leu Val Ile Pro Val Gly Ile Ile Tyr Ala Val Ile Tyr Tyr
                405   410   415
Phe Val Phe Arg Phe Leu Ile Val Lys Phe Asn Tyr Lys Thr Pro Gly
            420   425   430
Arg Glu Asp Lys Lys Ser Ser Val Thr Thr Thr Ser Ala Ser Gln Leu
            435   440   445
Pro Phe Asp Val Leu Lys Ala Met Gly Gly Lys Glu Asn Ile Lys His
        450   455   460
Leu His Ala Cys Ile Thr Arg Leu Arg Ile Gln Val Asn Glu Lys Ser
465   470   475   480
Lys Val Asp Val Ala Gly Leu Lys Ser Leu Gly Ala Ser Gly Val Leu
                485   490   495
Glu Val Gly Asn Asn Met Gln Ala Ile Phe Gly Pro Lys Ser Asp Gln
            500   505   510
Ile Lys His Asp Met Ala Lys Ile Ile Ser Gly Glu Ile Thr Lys Pro
            515   520   525
Ser Glu Thr Thr Ile Asp Glu Glu Val Ser Asp Glu Ser Val His Val
            530   535   540
Glu Asp Ile Val Glu Thr Glu Ile Tyr Ala Pro Gly His Gly Glu Ile
545   550   555   560
Ile Pro Leu Ser Glu Val Pro Asp Lys Val Phe Ser Glu Lys Met Met
                565   570   575
Gly Asp Gly Ile Gly Phe Val Pro Asp Ser Arg Lys Ile Val Ala Pro
                580   585   590
Phe Asp Gly Thr Val Lys Thr Ile Phe Pro Thr Lys His Ala Ile Gly
            595   600   605
Leu Glu Ser Asp Ser Gly Val Glu Val Leu Ile His Ile Gly Ile Asp
        610   615   620
Thr Val Lys Leu Asn Gly Glu Gly Phe Glu Ser Leu Val Asn Thr Asp
625   630   635   640
Glu Pro Val Thr Gln Gly Gln Pro Leu Met Lys Ile Asp Leu Glu Tyr
                645   650   655
Leu Lys Glu His Ala Pro Ser Ile Ile Thr Pro Val Ile Ile Thr Asn
            660   665   670
Gln Glu Asp Lys Thr Leu Thr Ile Glu Asp Val Lys Gln Val Asp Pro
            675   680   685
Gly Lys Ala Ile Met Thr Ile Lys
    690   695

<210> 4584
<211> 76
<212> PRT
<213> S.epidermidis

<400> 4584
Gly Ile Ile Pro Tyr Ile Tyr Glu Ser Thr Thr Ile Pro Thr Asn Asn
1   5   10   15
Thr Ala Lys Ile Val Pro Ile Val Thr Lys Val Leu Thr Ala Phe Leu

```
                    20                      25                      30
Gly Ala Gly Phe Leu Lys Phe Val Thr Ala Leu Asp Ile Ala Ser Thr
            35                      40                      45
Pro Val Ser Asp Asp Ala Pro Asp Glu Asn Ala Phe Lys Ser Lys Asn
        50                      55                      60
Asn Val Thr Pro Gly Thr Val Leu Pro Thr Val Glu
65                      70                      75
```

<210> 4585
<211> 529
<212> PRT
<213> S.epidermidis

<400> 4585
```
Gly Val Leu Phe Met Ser Val Leu Thr Val Met Gln Phe Ile Val Asn
1               5                       10                      15
Ile Ile Ile Met Ile Val Leu Leu Thr Ile Met Ile Leu Gly Gly Ile
                20                      25                      30
Trp Leu Phe Lys Asp Lys Gly Gln Asn Gln His Ser Val Leu Arg Asn
            35                      40                      45
Phe Pro Val Leu Gly Arg Ile Arg Tyr Ile Ser Glu Lys Ile Gly Pro
        50                      55                      60
Glu Leu Arg Gln Tyr Phe Phe Ala Asn Asp Asn Glu Gly Lys Pro Phe
65                      70                      75                      80
Ser Arg Ser Asp Tyr Lys Asn Ile Val Leu Ala Gly Lys Tyr Lys Ser
                85                      90                      95
Arg Met Thr Ser Phe Gly Thr Gly Lys Asp Tyr Leu Glu Gly Phe Tyr
                100                     105                     110
Ile Gln Asn Thr Met Phe Pro Leu Gln Ala Thr Glu Leu His Ile Asp
            115                     120                     125
His Thr Glu Phe Ile Ser Thr Phe Leu Tyr His Ile Glu Asn Glu Arg
            130                     135                     140
Leu Phe Ser Arg Glu Glu Tyr Arg Lys Ser Ala Gln Val Asp Pro Phe
145                     150                     155                     160
Phe Leu Thr Asp Glu His Ala Val Val Leu Gly Ser Asn Leu Lys His
                165                     170                     175
Pro Phe Lys Ile Lys Arg Leu Val Gly Gln Ser Gly Met Ser Tyr Gly
                180                     185                     190
Ala Leu Gly Lys Asn Ala Ile Thr Ala Leu Ser Met Gly Leu Ala Lys
                195                     200                     205
Ala Gly Thr Trp Met Asn Thr Gly Glu Gly Gly Leu Ser Glu Tyr His
            210                     215                     220
Leu Lys Gly Asn Gly Asp Ile Ile Tyr Gln Ile Gly Pro Gly Leu Phe
225                     230                     235                     240
Gly Val Arg Asp His Asp Gly Asn Phe Asn Arg Asp Met Phe Ile Asn
                245                     250                     255
Leu Ala Glu His Asn Asn Val Arg Ala Phe Glu Ile Lys Leu Ala Gln
            260                     265                     270
Gly Ala Lys Thr Arg Gly Gly His Met Glu Gly Asn Lys Val Thr Glu
            275                     280                     285
Glu Ile Ala Arg Ile Arg Asn Val Lys Pro Tyr Glu Thr Ile Asn Ser
        290                     295                     300
Pro Asn Arg Phe Asp Phe Ile Lys Asn Pro Thr Asp Leu Leu Asn Phe
305                     310                     315                     320
Val Asn His Leu Gln Ser Ile Gly Gln Lys Pro Val Gly Phe Lys Ile
                325                     330                     335
```

```
Val Val Ser Lys Val Glu Glu Ile Glu Ala Leu Val Lys Thr Met Ile
            340                 345                 350
Glu Ile Asp Thr Tyr Pro Ser Phe Ile Thr Val Asp Gly Gly Glu Gly
            355                 360                 365
Gly Thr Gly Ala Thr Phe Gln Glu Leu Glu Asp Gly Val Gly Leu Pro
        370                 375                 380
Leu Phe Thr Ala Leu Pro Ile Val Ser Ser Met Leu Glu Lys Tyr Gly
385                 390                 395                 400
Ile Arg Asn Lys Val Lys Ile Phe Ala Ser Gly Lys Leu Val Thr Pro
            405                 410                 415
Asp Lys Ile Ala Ile Ala Leu Gly Leu Gly Ala Asp Leu Val Asn Ile
            420                 425                 430
Ala Arg Gly Met Met Ile Ser Val Gly Cys Ile Met Ser Gln Gln Cys
            435                 440                 445
His Leu Asn Thr Cys Pro Val Gly Val Ala Thr Thr Asp Pro Lys Lys
        450                 455                 460
Glu Lys Gly Leu Ile Val Asp Glu Lys Gln Tyr Arg Val Thr Asn Tyr
465                 470                 475                 480
Val Thr Ser Leu His Glu Gly Leu Phe Asn Ile Ala Ala Ala Val Gly
            485                 490                 495
Val His Ser Pro Thr Glu Ile Thr Ser Asp His Ile Ile Tyr Arg Gln
            500                 505                 510
Leu Asp Gly Thr Thr Thr Ser Ile Gln Asp Tyr Lys Leu Lys Leu Ile
            515                 520                 525
Ser
```

```
<210> 4586
<211> 387
<212> PRT
<213> S.epidermidis

<400> 4586
Ser Arg Leu Leu Leu Ile Ile Ala Cys Val Ala Leu Ile Leu Trp Leu
1                   5                   10                  15
Gly Ile Lys Glu Lys Lys Arg His Ala Asn Arg Leu Glu Lys Ile Pro
            20                  25                  30
Leu Arg Ile Asn Ile Asn Gly Ile Arg Gly Lys Ser Thr Ile Thr Arg
            35                  40                  45
Met Ala Tyr Ser Val Leu Arg Glu Asp Gln Tyr Arg Val Val Gly Lys
        50                  55                  60
Thr Thr Gly Thr Asp Ala Arg Met Leu Tyr Trp Phe Thr Glu Lys Glu
65                  70                  75                  80
Tyr Pro Val Ile Arg Lys Pro Gln Gly Ala Asn Ile Gly Glu Gln Arg
            85                  90                  95
Asp Ile Ile Arg Lys Val Val Lys Gln Lys Ala Asn Ala Leu Val Asn
            100                 105                 110
Glu Cys Met Ala Val Asn Pro Asp Tyr Gln Ile Thr Phe Gln Asn Asp
            115                 120                 125
Leu Val Lys Ala Asn Ile Gly Val Ile Val Asn Val Met Glu Asp His
        130                 135                 140
Met Asp Val Leu Gly Pro Thr Leu Lys Asp Val Ala Gln Ala Phe Thr
145                 150                 155                 160
Ala Thr Ile Pro Tyr Asn Gly Lys Leu Val Val Met Lys Asp Asn Tyr
            165                 170                 175
Thr Ser Phe Phe Val Lys Glu Ala Lys Lys Arg Asn Ser Glu Leu Ile
```

```
                180                     185                     190
     Val Val Asp Lys Asp Val Ile Pro Glu Ser Tyr Leu Arg Lys Phe Asp
            195                     200                     205
     Tyr Leu Val Phe Pro Asp Asn Val Ala Ile Val Leu Gly Ile Ala Gln
        210                     215                     220
     Ala Val Gly Val Asp Glu Glu Thr Ala Leu Gln Gly Met Leu Asn Ala
     225                     230                     235                     240
     Pro Ala Asp Pro Gly Ala Val Arg Ile Lys Tyr Phe His Ala Asn Arg
                245                     250                     255
     Thr Lys Asn Val Phe Val Asn Ala Phe Ala Ala Asn Glu Pro Gln Ser
                260                     265                     270
     Thr Lys Ala Ile Leu Asn Lys Val Glu Ser Tyr Asn Tyr Pro Tyr Asp
                275                     280                     285
     Lys Lys Ile Ile Ile Leu Asn Cys Arg Ser Asp Arg Val Asp Arg Thr
            290                     295                     300
     Gln Leu Phe Val Asp Asn Phe Leu Gly Glu Val Asp Tyr Asp Val Leu
     305                     310                     315                     320
     Ile Cys Thr Gly Lys Ser Thr Gln Met Val Thr Gln Phe Met Glu Thr
                325                     330                     335
     Met Pro Glu Lys Thr Tyr Ile Asn Tyr Glu Gly Arg Asp Phe Val Glu
                340                     345                     350
     Ile Glu Lys Gly Ile Leu His Glu Ala Glu Asn Ala Leu Val Phe Cys
                355                     360                     365
     Val Gly Asn Ile His Gly Pro Gly Gly Arg Ile Ala Glu Phe Ile Glu
        370                     375                     380
     Gly Ile Glu
     385
```

<210> 4587
<211> 248
<212> PRT
<213> S.epidermidis

<400> 4587

```
     Glu Gly Ala Pro Leu Met Ser Ile Glu Arg Ile Ile Tyr Asp Asn Phe
     1               5                   10                  15
     Gln Asn Asp Pro Phe Ile Asn Glu Leu Asp Ile Asn Asp Glu Thr Lys
                20                  25                  30
     Gly Ala Tyr Glu Ile Leu Lys Trp Ala Tyr Gln Thr Tyr Glu Asn Asp
            35                  40                  45
     Ile Val Tyr Ser Cys Ser Phe Gly Ala Glu Ser Met Val Leu Ile Asp
        50                  55                  60
     Leu Ile Ser Gln Ile Lys Pro Asp Ala Gln Ile Val Phe Leu Asp Thr
     65                  70                  75                  80
     Asp Leu His Phe Gln Glu Thr Tyr Asp Leu Ile Asp Arg Val Lys Asp
                85                  90                  95
     Lys Tyr Pro Gln Leu Arg Ile Lys Met Lys Lys Pro Glu Leu Thr Leu
                100                 105                 110
     Glu Glu Gln Gly Glu Lys Tyr Asn Pro Ala Leu Trp Lys Asn Asp Pro
            115                 120                 125
     Asn Gln Cys Cys Tyr Ile Arg Lys Ile Lys Pro Leu Glu Asp Val Leu
         130                 135                 140
     Ser Gly Ala Val Ala Trp Ile Ser Gly Leu Arg Arg Ala Gln Ser Pro
     145                 150                 155                 160
     Thr Arg Ala His Thr Asn Phe Ile Asn Lys Asp Glu Arg Phe Lys Ser
                165                 170                 175
```

```
Ile Lys Val Cys Pro Leu Ile Tyr Trp Thr Glu Glu Glu Val Trp Ser
            180                 185                 190
Tyr Ile Arg Asp Lys Asp Leu Pro Tyr Asn Glu Leu His Asp Gln Asn
            195                 200                 205
Tyr Pro Ser Ile Gly Cys Ile Pro Cys Thr Ser Pro Val Phe Asp Ser
        210                 215                 220
Asn Asp Ser Arg Ala Gly Arg Trp Ser Asn Ser Ser Lys Thr Glu Cys
225                 230                 235                 240
Gly Leu His Val Ala Asp Lys Pro
                    245


<210> 4588
<211> 43
<212> PRT
<213> S.epidermidis


<400> 4588
Ser Val Tyr Pro Gly Ser Gly Lys Ser Thr Ile Ser Pro Gly Leu Thr
1               5                   10                  15
Thr Gln Val Gly Asn Ala Thr Arg Pro Phe Leu Val Pro Tyr Lys Ile
            20                  25                  30
Gln Thr Ser Ser Ser Leu Ser Asn Ser Thr Ser
        35                  40


<210> 4589
<211> 217
<212> PRT
<213> S.epidermidis


<400> 4589
Arg Arg Tyr Pro Arg Glu Met Asn Lys Leu Ile Asp Phe Ser Lys Gly
1               5                   10                  15
Leu Val Pro Val Ile Leu Gln His Ala Gln Thr Asp Ser Val Leu Met
            20                  25                  30
Leu Gly Tyr Met Asn Glu Glu Ala Tyr Gln Lys Thr Leu Lys Glu Lys
        35                  40                  45
Lys Val Thr Phe Phe Ser Arg Ser Lys Gln Arg Leu Trp Thr Lys Gly
    50                  55                  60
Glu Thr Ser Gly His Phe Gln His Val Glu Ser Ile His Leu Asp Cys
65                  70                  75                  80
Asp Gln Asp Ala Ile Leu Ile Lys Val Met Pro Gln Gly Pro Thr Cys
                85                  90                  95
His Thr Gly Ser Leu Ser Cys Phe Asn Ser Glu Ile Glu Ser Arg Phe
            100                 105                 110
Lys Ile Gln Ala Leu Ala Gln Thr Ile His Gln Ser Ala Lys Ala Asn
        115                 120                 125
Gln Ser Asn Ser Tyr Thr Gln Tyr Leu Leu Lys Glu Gly Ile Glu Lys
    130                 135                 140
Ile Ser Lys Lys Phe Gly Glu Glu Ala Phe Glu Val Val Ile Gly Ala
145                 150                 155                 160
Ile Lys His Asn Arg Glu Glu Val Ile Asn Glu Thr Ala Asp Val Met
                165                 170                 175
Tyr His Leu Phe Val Leu Leu His Ser Leu Asp Ile Pro Phe Ser Glu
            180                 185                 190
Val Glu Gln Val Leu Ala His Arg His Gln Lys Arg Asn Asn Phe Lys
        195                 200                 205
```

```
Gly Glu Arg Lys Glu Val Arg Glu Trp
    210                 215
```

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<210> 4590
<211> 47
<212> PRT
<213> S.epidermidis
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```
<400> 4590
Ile Arg Cys Pro Thr Pro Val Tyr Leu Cys Phe Lys Ile Ile Phe Ser
1               5                   10                  15
Phe Phe Asn Leu Leu Tyr Ile Ile Ile Tyr Asp Asn Val Ala Leu Val
            20                  25                  30
Thr Tyr Pro Ser Leu Thr Trp Lys Thr Met Phe Pro Phe Pro Thr
        35                  40                  45
```

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<210> 4591
<211> 462
<212> PRT
<213> S.epidermidis
```

```
<400> 4591
Ala Thr Thr Leu Tyr Val Lys Val Cys Ser Asn Met Val Gln Val Lys
1               5                   10                  15
Ile Gly Asn Cys Thr Ile Asn Gly Ile His Lys Lys Asn Ile Asp Val
            20                  25                  30
Phe Leu Gly Ile Pro Tyr Ala Lys Ser Phe Asn Lys Ile Ser Arg Phe
        35                  40                  45
Gln His Ser Lys Leu Met Glu Leu Ser Lys Pro Met Ile Asp Ala Thr
        50                  55                  60
His Ile Gln Ser Ile Pro Pro Gln Pro Tyr Asn Ser Leu Glu Asp Phe
65                  70                  75                  80
Phe Ser Met Thr Asp Ser Ser Phe Asn Ser Phe Lys Gln Asn Asp Tyr
                85                  90                  95
Cys Leu Phe Leu Asn Ile Trp Lys Pro Ser Ser Asn Gln Asn His Leu
            100                 105                 110
Pro Val Val Ile Tyr Phe Tyr Gly Gly Ser Phe Leu Gln Gly His Gly
        115                 120                 125
Thr Ala Glu Leu Tyr Cys Pro Glu His Ile Val Glu Gln Glu Asn Ile
        130                 135                 140
Ile Val Val Thr Phe Asn Tyr Arg Leu Gly Ala Leu Gly Tyr Leu Asp
145                 150                 155                 160
Trp Ser Tyr Phe Asn Gln His Leu Asn Tyr Asn Asn Gly Ile Ser Asp
                165                 170                 175
Gln Ile Asn Val Leu Arg Trp Val His Gln Tyr Ile Glu His Phe Gly
            180                 185                 190
Gly Asp Pro Asn Asn Val Thr Leu Met Gly Gln Ser Ala Gly Ser Met
        195                 200                 205
Ser Ile Met Thr Leu Met Gln Met Pro Glu Leu Asp Asp Tyr Tyr His
        210                 215                 220
Lys Val Met Leu Leu Ser Gly Thr Leu Thr Thr Asp Thr Pro Leu Asn
225                 230                 235                 240
Ala His Thr Lys Val Gln His Phe Ser Gln Leu Met Arg His Tyr Phe
                245                 250                 255
Pro Asn Lys Thr Leu Lys Thr Leu Asn Ser Asp Asp Ile Leu Tyr Leu
            260                 265                 270
```

```
Met Glu Ser Gln Lys Ile Glu Arg Gly Arg Ser Arg Gly Leu Asp Leu
        275                 280             285
Ile Tyr Gln Pro Ile Lys Asp His His Met Ser Arg Ser Ile Lys Lys
        290                 295             300
Phe Pro Lys Pro Thr Phe Met Ser Tyr Thr His Asp Glu Gly Asp Ile
305                 310             315                 320
Tyr Ile Glu Asp Ala Thr Arg Thr Leu Pro Ser Glu Arg Phe Ile His
            325             330                 335
Leu Met Ser Gln Tyr Gly Thr His Val Glu Lys Asn Asp Ala Leu Thr
        340                 345             350
Met Lys Gln Gln Arg Asn Val Ile Thr Glu Tyr Cys Phe Val Arg Pro
        355                 360             365
Ile Tyr Leu Phe Leu Asn Gln Met Asn Ser Cys Asp Thr Trp Leu Ala
        370                 375             380
Arg Phe Asp Trp His Gln Pro His Thr Ser Tyr Phe Lys Ser Ala Tyr
385                 390             395                 400
His Ile Leu Asp Leu Val Phe Trp Phe Gly His Leu Ser Ile Leu Thr
            405             410                 415
Lys Asn His Tyr Ser Val Thr Gln His Asp Met Asn Leu Ser Arg Asn
        420                 425             430
Met Ile Ser Asp Leu Ala Tyr Phe Ala Arg Lys Gly Lys Met Pro Trp
        435                 440             445
Lys Cys Tyr Glu Pro Gln His Gln Ala Leu His Ile Tyr Arg
    450                 455             460
```

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<210> 4592
<211> 206
<212> PRT
<213> S.epidermidis
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```
<400> 4592
Asn Ala Met Leu Arg Val Ala Leu Ala Lys Gly Arg Leu Leu Lys Ser
1               5               10                  15
Phe Ile Glu Tyr Leu Gln Gln Val Asn Gln Ile Asp Ile Ala Thr Val
        20                  25              30
Leu Leu Asn Arg Gln Arg Gln Leu Leu Leu Thr Val Asp Asn Ile Glu
        35              40                  45
Met Ile Leu Val Lys Gly Ser Asp Val Pro Thr Tyr Val Glu Gln Gly
    50              55                  60
Ile Ala Asp Val Gly Ile Val Gly Ser Asp Ile Leu Asn Gly Gln Lys
65              70                  75                  80
Tyr Asn Ile Asn Lys Leu Leu Asp Leu Pro Phe Gly Lys Cys His Phe
                85                  90                  95
Ala Leu Ala Ala Lys Pro Glu Thr Ser Arg Tyr Lys Lys Val Ala Thr
            100                 105                 110
Ser Tyr Val His Thr Ala Thr Gln Phe Phe Asn Lys Glu Gly Met Asp
        115                 120                 125
Val Glu Val Ile His Leu Asn Gly Ser Val Glu Leu Ser Cys Val Val
        130                 135                 140
Asp Met Val Asp Ala Ile Val Asp Ile Val Gln Thr Gly Ser Thr Leu
145                 150                 155                 160
Thr Ala Asn Gly Leu Val Glu Lys Lys His Ile Ser Glu Ile Asn Ala
                165                 170                 175
Lys Leu Ile Thr Asn Lys Glu Ser Tyr Phe Lys Gln Ser Ser Glu Ile
            180                 185                 190
Glu Arg Leu Ile Lys Gln Leu Gly Val Ser Ile Asn Tyr Ala
```

195   200   205

<210> 4593
<211> 275
<212> PRT
<213> S.epidermidis

<400> 4593
Glu Asp Met Phe Lys Asn Asn Lys Ser Ile Glu Asp Thr Tyr Ala Thr
1   5   10   15
Lys Pro Ile Ile Gln Asn Ile Val Gly Gln Ala Gln Ile Lys Gln Val
            20   25   30
Met Ala Lys Gln Thr Pro Met Arg Tyr Thr Leu Lys Ala Ile Met Ala
        35   40   45
Gly Phe Leu Leu Ser Ile Val Thr Val Phe Met Leu Ala Ile Lys Thr
        50   55   60
Gln Phe Ala Ser Thr His Asn Asp Gly Leu Ile Asn Leu Met Gly Ala
65   70   75   80
Ile Ala Phe Ser Leu Gly Leu Val Leu Val Val Leu Thr Asn Ser Glu
                85   90   95
Leu Leu Thr Ser Asn Phe Met Tyr Leu Thr Val Gly Trp Tyr Tyr Lys
            100   105   110
Ala Ile Ser Val Ser Lys Met Ile Trp Ile Phe Ile Phe Cys Phe Ile
            115   120   125
Gly Asn Ile Leu Gly Gly Phe Ile Leu Phe Phe Leu Met Lys Tyr Ala
        130   135   140
His Val Met Thr Pro Glu Met Thr Asp Ser Leu Thr Ala Leu Val His
145   150   155   160
Lys Lys Thr Val Glu Ser Thr Trp Leu Asn Ile Leu Ile Lys Gly Ile
                165   170   175
Phe Cys Asn Phe Phe Ile Asn Ile Gly Ile Phe Ile Ser Met Gln Phe
                180   185   190
Lys Glu Gly Leu Ala Lys Ala Phe Phe Ile Ala Cys Gly Val Ile Val
            195   200   205
Phe Val Phe Met Gly Tyr Glu His Val Val Phe Asn Ala Gly Leu Tyr
        210   215   220
Ala Gly Met Met Phe Phe Asn Met Asp Gly Leu Ser Trp Leu Gly Val
225   230   235   240
Leu Lys Asn Ile Val Phe Ala Phe Leu Gly Asn Tyr Ile Gly Gly Gly
                245   250   255
Ile Phe Ile Gly Leu Val Tyr Ala Tyr Leu Asn Gly Lys Arg Asp Ser
            260   265   270
Leu Gln Pro
            275

<210> 4594
<211> 135
<212> PRT
<213> S.epidermidis

<400> 4594
Lys Gly Val Leu Leu Met Glu Lys Ala Lys Phe Val Ile Lys Leu Ile
1   5   10   15
Leu Gln Leu Ala Leu Ile Met Leu Ile Thr Phe Ile Gly Thr Glu Val
            20   25   30
Gln Lys Leu Leu His Ile Pro Leu Ala Gly Ser Ile Val Gly Leu Met

```
                35                      40                      45
Leu Phe Phe Leu Leu Leu Gln Phe Lys Ile Val Pro Glu Ser Trp Ile
        50                      55                      60
Asn Val Gly Ala Asp Phe Leu Leu Lys Thr Met Val Phe Phe Phe Ile
65                      70                      75                      80
Pro Ser Val Val Gly Ile Met Asp Val Ala Ser Asn Ile Thr Met Asn
                85                      90                      95
Tyr Ile Leu Phe Phe Ile Val Ile Ile Ile Gly Thr Cys Leu Val Ala
               100                     105                     110
Leu Ser Ser Gly Tyr Ile Ala Glu Lys Met Leu Glu Lys Ser Asn Thr
               115                     120                     125
Arg Lys Gly Thr Asp His Ser
       130                     135
```

<210> 4595
<211> 94
<212> PRT
<213> S.epidermidis

<400> 4595
```
Ser Ile Pro Pro Val Ala Cys Asn Val Pro Pro Ala Ile Pro Ile Asp
1                       5                       10                      15
Asn Met Ile Asn Thr Ala Val Thr Gly Ala Glu Pro Gly Gly Asn Trp
                20                      25                      30
Asn Pro Asn Ile Met Ile Ser Cys Ala Thr Ile Ala Lys Met Pro His
        35                      40                      45
Pro Ser Ala Pro Ala Val Leu Asn Pro Asn Asn Ile Ala Arg Ile Met
        50                      55                      60
Ile Met Ile Ser Met Ile Asn Asn Asn Met Glu Glu Ser Pro Asn Leu
65                      70                      75                      80
Cys Arg Thr Ile Phe Thr Ser Ile Phe Tyr His Phe Asn Met
                85                      90
```

<210> 4596
<211> 76
<212> PRT
<213> S.epidermidis

<400> 4596
```
Pro Phe Lys Pro Thr Arg Gly Glu Met Arg Pro Pro Lys Ile Asn Trp
1                       5                       10                      15
Asn Arg Pro Ser Lys Leu Glu Ala Leu Pro Leu Pro Pro Val Arg Ser
                20                      25                      30
Ala Ile Ala Ile Glu Lys Gln Ser Gly Ala Ile Glu Val Thr Gly His
        35                      40                      45
Ile Leu Ile Lys Lys Pro Ile Ser Lys Thr Tyr Asn Gly Arg Cys Asn
        50                      55                      60
Val Lys Val Asn Ile Lys Ile Thr Thr Pro Asn Ile
65                      70                      75
```

<210> 4597
<211> 290
<212> PRT
<213> S.epidermidis

<400> 4597

His Met Lys Pro Phe Lys Leu Ile Phe Ile Ser Ala Leu Met Ile Leu
1   5   10   15
Ile Met Thr Asn Ala Thr Pro Ile Ser His Leu Asn Ala Gln Ala Asn
            20   25   30
Glu Glu Asn Lys Lys Leu Lys Tyr Glu Lys Asn Ser Ala Leu Ala Leu
        35   40   45
Asn Tyr His Arg Val Arg Lys Asp Pro Leu Asn Asp Phe Ile Ser
    50   55   60
Leu Leu Ser Gly Ser Lys Glu Ile Lys Asn Tyr Ser Val Thr Asp Gln
65   \   70   75   80
Glu Phe Lys Ser Gln Ile Gln Trp Leu Lys Ala His Asp Ala Lys Phe
                85   90   95
Leu Thr Leu Lys Glu Phe Ile Lys Tyr Lys Glu Lys Gly Lys Phe Pro
            100   105   110
Lys Arg Ser Val Trp Ile Asn Phe Asp Asp Met Asp Gln Thr Ile Tyr
        115   120   125
Asp Asn Ala Phe Pro Val Leu Lys Lys Tyr His Ile Pro Ala Thr Gly
    130   135   140
Phe Leu Ile Thr Asn His Ile Gly Ser Thr Asn Phe His Asn Leu Asn
145   150   155   160
Leu Leu Ser Lys Lys Gln Leu Asp Glu Met Tyr Glu Thr Gly Leu Trp
                165   170   175
Asp Phe Glu Ser His Thr His Asp Leu His Ala Leu Lys Lys Gly Asn
            180   185   190
Lys Ser Lys Phe Leu Asp Ser Ser Gln Ser Val Ala Ser Lys Asp Ile
        195   200   205
Lys Lys Ser Glu His Tyr Leu Asn Lys Asn Tyr Pro Lys Asn Glu Arg
    210   215   220
Ala Leu Ala Tyr Pro Tyr Gly Leu Ile Asn Asp Asp Lys Ile Lys Ala
225   230   235   240
Met Lys Lys Asn Gly Ile Gln Tyr Gly Phe Thr Leu Gln Glu Lys Ala
            245   250   255
Val Thr Pro Asp Ala Asp Asn Tyr Arg Ile Pro Arg Ile Leu Val Ser
            260   265   270
Asn Asp Ala Phe Glu Thr Leu Ile Lys Glu Trp Asp Gly Phe Asp Glu
        275   280   285
Glu Lys
    290

<210> 4598
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4598
Tyr Lys Lys Pro Gln His Arg Glu Phe His Ser Glu Ile Leu Tyr Val
1   5   10   15   .
Gly Val Arg Tyr Arg Asp Lys Thr Ile Tyr Ser Ile His Ile Leu Ser
            20   25   30
Tyr Pro His Leu Phe Ser Ile Gln Ile Ile Val Val Tyr Asn Val Trp
        35   40   45
Ser

<210> 4599
<211> 53

<212> PRT
<213> S.epidermidis

<400> 4599
Ile Arg Ala Phe Cys Ala Val Phe Ala Met Ile Gly Ser Ser Glu Arg
1   5   10   15
Ala Ile Phe Ala Val Pro Ile Pro Lys Thr Lys Thr Lys Thr Ile Ile
            20   25   30
Gly Ala Ile Asn Ile Ile Asp Phe Gly Lys Arg Ser Ile Thr Arg Asp
            35   40   45
Ala Met Tyr Thr Lys
        50

<210> 4600
<211> 430
<212> PRT
<213> S.epidermidis

<400> 4600
Ile Val Thr Phe Glu Phe Asn His Phe Thr Gln Arg Met Gly Tyr Gln
1   5   10   15
Leu Asp Lys Arg Gln Phe Glu Ile Leu Asp Met Leu Val Arg Phe Asn
            20   25   30
Thr Glu Ser Pro Pro Gly Arg Asn Thr Asp Pro Leu Gln Asp Glu Ile
            35   40   45
Glu Thr Leu Leu Lys Gln Leu Asp Phe Ser Ile Gln Arg Glu Gln Leu
        50   55   60
Tyr Asp Asn Asp Ser Val Ile Val Ala Thr Leu Lys Gly His Asn Pro
65   70   75   80
Lys Ala Pro Lys Leu Ile Leu Asn Gly His Val Asp Val Ala Ser Val
                85   90   95
Asp Asp Asp Gln Tyr Trp Gln Tyr Pro Pro Phe Lys Leu Thr Asn Lys
            100   105   110
Asp Glu Trp Leu Tyr Gly Arg Gly Val Ser Asp Met Lys Gly Gly Met
            115   120   125
Ser Ser Leu Phe Tyr Val Leu Glu Gln Leu His Gln Ala Gly Gln Arg
        130   135   140
Pro Glu Gly Asp Ile Ile Val Gln Ser Val Val Gly Glu Glu Val Gly
145   150   155   160
Glu Ala Gly Thr Lys Arg Ala Cys Glu Ile Gly Pro Lys Gly Asp Leu
                165   170   175
Ala Leu Val Leu Asp Thr Ser Glu Asn Gln Ala Leu Gly Gln Gly Gly
            180   185   190
Val Ile Thr Gly Trp Ile Thr Val Lys Ser Lys Asn Thr Ile His Asp
            195   200   205
Gly Ala Arg Ser Gln Thr Ile His Ala Gly Gly Gly Leu Phe Gly Ala
        210   215   220
Ser Ala Ile Glu Lys Met Thr Lys Val Ile Gln Ser Leu Asn Glu Leu
225   230   235   240
Glu Arg His Trp Gly Val Met Lys Lys Ser Pro Gly Met Pro Pro Gly
                245   250   255
Ala Asn Thr Ile Asn Pro Ala Val Ile Glu Gly Gly Arg His Pro Ala
            260   265   270
Phe Ile Ala Asp Glu Cys Arg Leu Trp Ile Thr Val His Tyr Leu Pro
            275   280   285
Asn Glu Ser Tyr Glu Ser Val Val Asn Glu Ile Glu Arg Tyr Leu Asn

```
        290                    295                    300
Lys Val Ala Glu Ala Asp Val Trp Leu Arg Glu Asn Pro Leu Glu Phe
305                    310                    315                    320
Glu Trp Gly Gly Thr Ser Met Ile Glu Asp Lys Gly Glu Ile Phe Pro
                   325                    330                    335
Ser Phe Thr Val Pro Thr His His Pro Gly Phe Lys Gln Leu Glu Glu
                   340                    345                    350
Ala His Glu His Ile His Asn Lys Lys Leu Glu His Gly Met Ser Thr
                   355                    360                    365
Thr Val Thr Asp Gly Gly Trp Thr Ala His Phe Gly Ile Pro Thr Ile
                   370                    375                    380
Leu Tyr Gly Pro Gly Ser Leu Glu Glu Ala His Ser Val Asp Glu Lys
385                    390                    395                    400
Ile Lys Ala Lys Glu Leu Ala Gln Tyr Ser Asp Val Leu Tyr Thr Phe
                   405                    410                    415
Leu Lys Glu Trp Tyr Glu His Pro Gln Ser Tyr Lys Ser Ser
                   420                    425                    430
```

<210> 4601
<211> 471
<212> PRT
<213> S.epidermidis

<400> 4601
```
Val Asn Ala Phe Ile Phe Val Ser Leu Arg Arg Lys Leu Met Ala Lys
1                  5                     10                     15
Gln Leu Gln Arg Glu Leu Asn Asn Arg His Ile Gln Leu Ile Ala Ile
                   20                    25                     30
Gly Gly Val Ile Gly Thr Gly Leu Phe Leu Gly Ser Gly Gln Thr Ile
                   35                    40                     45
Ser Leu Thr Gly Pro Ser Leu Leu Phe Thr Tyr Met Leu Ile Gly Ile
                   50                    55                     60
Val Leu Phe Ala Phe Met Arg Ala Leu Gly Glu Leu Leu Leu Ser Asn
65                 70                    75                     80
Ser Lys Phe Asn Ser Phe Val Asp Ile Ala Asn Glu Tyr Leu Gly Pro
                   85                    90                     95
Phe Gly Gly Phe Val Ile Gly Trp Thr Tyr Trp Val Cys Trp Ile Val
                   100                   105                    110
Ser Ser Met Ser Asp Leu Thr Ala Met Gly Gln Tyr Phe Ala Tyr Trp
                   115                   120                    125
Tyr Pro Gln Val Pro His Trp Leu Thr Val Leu Phe Ile Val Leu Leu
                   130                   135                    140
Leu Ile Ser Phe Asn Leu Leu Gly Ala Arg Leu Phe Gly Glu Leu Glu
145                   150                   155                    160
Phe Trp Phe Ser Ile Ile Lys Val Val Thr Ile Ile Thr Met Val Ile
                   165                   170                    175
Val Gly Leu Val Leu Ile Phe Leu Ser Phe Lys Thr Glu Tyr Gly His
                   180                   185                    190
Ala Ser Phe Gly Asn Leu Ile His His Gly Gly Met Phe Pro His Gly
                   195                   200                    205
Ala Ala Gly Phe Leu Met Ser Phe Gln Ile Ala Val Tyr Ser Phe Ile
                   210                   215                    220
Gly Ile Glu Leu Ile Gly Val Thr Ala Gly Glu Thr Lys Asn Pro Glu
225                   230                   235                    240
Lys Thr Ile Pro Lys Ala Ile Asn Asn Val Pro Ile Arg Ile Leu Leu
                   245                   250                    255
```

```
Phe Tyr Ile Gly Gly Leu Leu Val Ile Met Ser Val Ile Pro Trp Phe
            260                 265             270
Lys Val Asp Pro Asp Ser Ser Pro Phe Val Lys Leu Phe Thr Leu Ile
            275             280             285
Gly Val Pro Phe Ala Ala Gly Ile Val Asn Phe Val Val Leu Thr Ala
    290             295             300
Ala Ala Ser Ala Thr Asn Ser Gly Ile Tyr Ser Asn Ser Arg Ile Leu
305             310             315                         320
Phe Gly Leu Ala Lys Gln Gly Leu Gly Pro Lys Val Leu Thr Lys Thr
            325             330             335
Asn Ser Asn Gly Val Pro Tyr Leu Ser Met Leu Val Ser Ser Ile Thr
            340             345             350
Leu Leu Ile Ala Ala Leu Leu Asn Phe Ile Phe Pro Asp Ala Ile Lys
            355             360             365
Leu Phe Ile Tyr Val Thr Thr Leu Ser Thr Val Leu Phe Leu Val Val
    370             375             380
Trp Gly Met Ile Ile Val Ser Tyr Ile Ala Tyr Val Lys Lys Asn Pro
385             390             395                         400
Glu Gln His Gln Ser Ser Ala Phe Lys Leu Trp Gly Gly Lys Ile Ile
            405             410             415
Ala Tyr Ile Val Leu Ser Phe Phe Ile Phe Ile Phe Ile Leu Leu Phe
            420             425             430
Phe Ser Lys Asp Thr Arg Val Ala Ile Phe Ile Ser Pro Leu Trp Phe
            435             440             445
Ile Phe Leu Phe Phe Tyr Tyr Lys Lys Tyr Lys Asn Asn Ala Glu Ser
    450             455             460
Leu Ala Asp Arg Gln Arg His
465             470
```

<210> 4602
<211> 661
<212> PRT
<213> S.epidermidis

<400> 4602
```
Met Tyr Ala Phe Thr Ile Ile Val Arg Lys Arg Ser Val His Thr Met
1               5               10              15
Lys Ile Leu Ala Ile Thr Ser Cys Pro Asn Gly Ile Ala His Thr Tyr
            20              25              30
Met Ala Gln Glu Lys Leu Glu Gln Ala Ala Lys Asp Met Gly Val Asp
        35              40              45
Ile Lys Val Glu Thr Gln Gly Gly Val Gly Ala Glu Asn Val Leu Thr
    50              55              60
Ser Lys Glu Ile Lys Glu Ala Asp Gly Ile Ile Ile Ala Ala Asp Arg
65              70              75                          80
Gln Val Asp Leu Ser Arg Phe Asn Gly Lys Pro Leu Ile Asn Glu Ser
            85              90              95
Val Arg Glu Gly Ile His Arg Pro Lys Glu Leu Ile Gln Arg Val Ile
            100             105             110
Asp Gln Asp Ala Gln Ile Tyr His Asp Gln Asn Ile Ser Ser Asn Ile
            115             120             125
Ser Arg Asp Gln Glu Glu Pro His Lys Ser Asn Ile Gln Met Val Tyr
130             135             140
Gln His Leu Met Asn Gly Val Ser Phe Met Val Pro Phe Ile Val Val
145             150             155             160
Gly Gly Leu Leu Ile Ala Ile Ala Leu Thr Leu Gly Gly His Thr Thr
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                    165                    170                    175
Pro Lys Gly Leu Val Ile Thr Glu Asp Ser Phe Trp Lys Ser Ile Glu
            180                    185                    190
Asn Ile Gly Ser Leu Ser Phe Lys Phe Met Val Pro Ile Leu Ala Gly
        195                    200                    205
Tyr Ile Ala Val Ser Ile Ala Asp Lys Pro Gly Leu Val Pro Gly Met
    210                    215                    220
Ile Gly Gly Ala Ile Ala Ala Asp Gly Ser Leu Tyr Gly Ser Glu Ala
225                    230                    235                    240
Gly Ala Gly Phe Val Gly Gly Ile Val Ala Gly Phe Leu Ala Gly Tyr
                245                    250                    255
Ile Ala Lys Trp Ile Lys Gln Ile Lys Val Pro Lys Ala Met Ala Pro
            260                    265                    270
Ile Met Pro Ile Ile Ile Ile Pro Ile Leu Ser Ser Leu Ile Val Gly
            275                    280                    285
Leu Ile Phe Ile Phe Val Ile Gly Thr Pro Ile Ser Asn Ile Phe Gly
        290                    295                    300
Ala Leu Thr Ser Trp Leu Lys Gly Met Gln Gly Ala Asn Ile Ile Ile
305                    310                    315                    320
Leu Ala Leu Ile Ile Gly Ala Met Ile Ala Phe Asp Met Gly Gly Pro
                325                    330                    335
Val Asn Lys Val Ala Phe Leu Phe Gly Ser Ala Leu Ile Thr Glu Gly
            340                    345                    350
Asn Tyr Thr Val Met Gly Met Val Ala Val Ala Val Cys Thr Pro Pro
        355                    360                    365
Ile Gly Leu Gly Leu Ala Thr Phe Val Arg Lys His Gln Phe Asn Lys
        370                    375                    380
Ala Glu Gln Glu Met Gly Lys Ala Ser Phe Thr Met Gly Leu Phe Gly
385                    390                    395                    400
Ile Thr Glu Gly Ala Ile Pro Phe Ala Ala Gln Asp Pro Leu Arg Ile
                405                    410                    415
Ile Pro Ala Asn Met Ile Gly Ala Met Ile Ala Ser Val Ile Ala Ala
            420                    425                    430
Val Gly Gly Val Gly Asp Lys Val Ala His Gly Gly Pro Ile Val Ala
        435                    440                    445
Val Leu Gly Gly Ile Ser Asn Ile Leu Trp Phe Phe Ile Ala Val Val
    450                    455                    460
Val Gly Ser Leu Val Thr Met Phe Thr Val Leu Leu Phe Lys Arg His
465                    470                    475                    480
Thr Pro Ala Ile Ala Lys Ser Asn Asn Gly Asn Asp Thr Ser Val Gly
            485                    490                    495
Thr Glu Asn Val Phe Ser Asp Asp Gln Ser Ile Asn His Ser Lys Gln
            500                    505                    510
Leu Ser His His Met Val Phe Asp Lys Ser Leu Ile Glu Ile Thr Lys
        515                    520                    525
Glu Pro Met Thr Arg Asp Gln Ala Ile Asp Arg Leu Leu Thr Lys Leu
        530                    535                    540
Cys His Arg His Tyr Ile Thr Asn Ile Glu Glu Val Arg Thr Ala Ile
545                    550                    555                    560
Leu Lys Arg Glu Ala Glu Ser Thr Thr Ala Ile Gly Met Asn Val Ala
                565                    570                    575
Ile Pro His Ala Lys Ser His Ala Val Lys Arg Pro Ile Val Ala Val
            580                    585                    590
Leu Asn His Lys Ala Gly Val Glu Trp Glu Ser Leu Asp Glu Ser Asn
        595                    600                    605
Pro Gln Leu Ile Phe Leu Ile Ala Val Pro Asn Asp Asn Asn Asp Thr
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        610                    615                    620
His Leu Lys Leu Leu Gln Arg Leu Ser Arg Thr Leu Met Lys Asp Asn
625                    630                    635                    640
Thr Arg Asp Glu Leu Ile His Ala Gln Ser Arg Asp Glu Ile Phe Asn
                    645                    650                    655
Ile Leu Lys Glu Ile
                660


<210> 4603
<211> 41
<212> PRT
<213> S.epidermidis


<400> 4603
Ile Lys Lys Pro Val Asn Glu Phe Ile Lys Thr His Leu Leu Ala Ile
1               5                    10                   15
Leu Leu Gly Ile Met Ser Gln Leu Pro Val Ser Ile Ile Ile Leu Phe
                20                   25                   30
Tyr Leu Ile Tyr Asn Gln Leu Asn Arg
                35                   40


<210> 4604
<211> 304
<212> PRT
<213> S.epidermidis


<400> 4604
Leu Leu Gln Phe Ile Phe Ala Ile Ser Ser Tyr Thr Gly Leu Lys Lys
1               5                    10                   15
Gly Ile Gln Lys Leu Ser Asp Val Asn Val Trp Leu Ser Phe Leu Leu
                20                   25                   30
Leu Ala Phe Val Phe Ile Val Gly Pro Thr Val Phe Ile Met Glu Thr
                35                   40                   45
Thr Val Thr Gly Phe Gly Asn Met Ile Lys Asp Phe Phe His Met Ala
            50                   55                   60
Thr Trp Met Glu Pro Phe Gly Gly Ile Lys Gly Arg Lys Glu Thr Asn
65                   70                   75                   80
Phe Pro Gln Asp Trp Thr Ile Phe Tyr Trp Ser Trp Trp Leu Val Tyr
                    85                   90                   95
Ala Pro Phe Ile Gly Leu Phe Ile Ala Arg Ile Ser Lys Gly Arg Thr
                100                   105                  110
Leu Lys Glu Val Val Leu Gly Thr Ile Cys Tyr Gly Thr Leu Gly Cys
            115                   120                  125
Val Leu Phe Phe Gly Ile Phe Gly Asn Tyr Ala Val Tyr Leu Gln Ile
            130                   135                  140
Thr Glu Gln Phe Asn Val Ile Ser Tyr Leu Asn Asn Tyr Gly Thr Glu
145                  150                  155                  160
Ala Thr Ile Ile Glu Ile Met His Gln Leu Pro Phe Ser Thr Ile Thr
                165                  170                  175
Ile Ile Leu Phe Leu Ile Ser Ala Phe Leu Phe Leu Ala Thr Thr Phe
            180                  185                  190
Asp Ser Gly Ser Tyr Ile Leu Ala Ala Ala Ser Gln Lys Lys Val Ile
            195                  200                  205
Gly Glu Pro Leu Arg Ala Asn Arg Leu Phe Trp Ala Phe Ala Leu Cys
    210                  215                  220
Leu Leu Pro Phe Ser Leu Met Leu Val Gly Gly Glu Arg Ala Leu Glu
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225                 230                 235                 240
Val Leu Lys Thr Ala Ser Leu Leu Ala Ser Val Pro Leu Ile Val Ile
                245                 250                 255
Phe Thr Leu Met Met Ile Ser Phe Leu Ile Ile Leu Gly Arg Asp Arg
                260                 265                 270
Ile Lys Leu Glu Arg Arg Ala Asp Lys His Lys Glu Ile Glu Arg Arg
                275                 280                 285
Ser Leu Arg Ile Val Gln Val Lys Asp Lys Pro Glu Asp Asp Asn Leu
                290                 295                 300


<210> 4605
<211> 301
<212> PRT
<213> S.epidermidis


<400> 4605
Lys Glu Gln Leu Thr Glu Asp Asn Val Gln Ser Ile Glu Gly Phe Asp
1               5                   10                  15
Gly Leu Ser Leu Ser Gln Thr Leu Pro Leu Ser Glu Thr Ile Tyr Asn
                20                  25                  30
Lys Leu Asn Gln Leu Gly Ile Arg Gln Ile Ala Gln Arg Ser Ala Gly
                35                  40                  45
Phe Asp Gly Tyr Asn Leu Glu Leu Ala Ser Lys Tyr Gly Leu Ile Ile
                50                  55                  60
Ser Asn Val Pro Ser Tyr Ser Pro Arg Ser Ile Ala Glu Phe Thr Val
65                  70                  75                  80
Thr Gln Ala Ile Asn Ile Val Arg His Phe Asn His Ile Gln Arg Lys
                85                  90                  95
Met Arg Leu His Asp Phe Arg Trp Glu Ala Ser Ile Leu Ser Gln Ser
                100                 105                 110
Ile Lys Asp Leu Lys Val Ala Val Ile Gly Thr Gly His Ile Gly Gly
                115                 120                 125
Ile Val Ala Gln Ile Phe Ser Glu Gly Tyr Leu Cys Asp Val Val Ala
                130                 135                 140
Tyr Asp Pro Phe Pro Ser Glu His Val Lys Pro Tyr Val Thr Tyr Lys
145                 150                 155                 160
Gln Ser Ile Asn Glu Ala Ile Lys Glu Ala Asp Ile Val Thr Ile His
                165                 170                 175
Met Pro Ser Thr Gln Tyr Asn Asn Tyr Leu Phe Asn Glu Asn Met Phe
                180                 185                 190
Gln Met Phe Lys Lys Gly Ala Val Phe Val Asn Cys Ala Arg Gly Ser
                195                 200                 205
Leu Val Asp Thr Lys Ala Leu Leu Ser Ala Ile Glu Gln Gly Gln Ile
                210                 215                 220
Lys Gly Ala Ala Leu Asp Thr Tyr Glu Tyr Glu Ile Gly Val Tyr Thr
225                 230                 235                 240
Thr Asp Arg Ser Glu Glu Gly Leu Asn Asp Pro Leu Leu Glu Glu Leu
                245                 250                 255
Ile Thr Arg Glu Asp Ile Ile Val Thr Pro His Ile Ala Phe Tyr Thr
                260                 265                 270
Glu Glu Ala Ile Lys His Leu Ile Phe Asp Ala Leu Asp Ala Thr Met
                275                 280                 285
Glu Val Leu Asn Thr Gly Thr Thr Glu Leu Arg Val Asn
                290                 295                 300


<210> 4606
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<211> 156
<212> PRT
<213> S.epidermidis

<400> 4606
Tyr Ile Lys Leu Ser Val Ile Gln Lys Gln Gly Val Phe Ile Met Ala
1               5                   10                  15
Asn Ser Ile Tyr Ser Thr Thr Met Ile Ser Asn Gly Gly Arg Asp Gly
            20                  25                  30
Arg Val Phe Ser Pro Asp Asn Thr Phe Val Gln Asn Leu Ala Thr Pro
            35                  40                  45
Lys Glu Met Gly Gly Gln Gly Gly Asn Asp Thr Asn Pro Glu Gln Leu
        50                  55                  60
Phe Ala Ala Gly Tyr Ser Ala Cys Phe Asn Ser Ala Leu Ser Leu Ile
65                  70                  75                  80
Leu Ser Gln Asn Lys Ile Ser Asp Ala Asn Pro Glu Val Glu Ile Thr
                85                  90                  95
Ile Glu Leu Leu Lys Asp Asp Thr Asp Asn Gly Phe Lys Leu Gly Ala
                100                 105                 110
Asp Ile Lys Val Thr Leu Glu Asn Met Ser Gln Gln Asp Ala Glu Lys
        115                 120                 125
Phe Val Glu Gln Ala His Gln Phe Cys Pro Tyr Ser Lys Ala Thr Arg
        130                 135                 140
Gly Asn Ile Asp Val Gln Leu Asp Val Thr Ala Gln
145                 150                 155

<210> 4607
<211> 70
<212> PRT
<213> S.epidermidis

<400> 4607
Asn Val Lys Leu Leu Ile Thr Glu Gly Gly Leu Phe Met Phe Thr Ile
1               5                   10                  15
Ser Ile Ile Ala Met Ile Ile Gly Val Val Leu Ile Val Leu Ser Gln
            20                  25                  30
Ile Ile Tyr His Ser Lys Pro Ile Asp Ala Lys Glu Lys Met Phe Ile
            35                  40                  45
Pro Gly Val Cys Leu Phe Leu Val Gly Leu Leu Ser Leu Ile Gly His
        50                  55                  60
Phe Val Asn Gly Tyr Val
65                  70

<210> 4608
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4608
Leu Leu Phe Thr Asn Asn Leu Ile Ser Phe Ile Ile Val Leu Tyr Lys
1               5                   10                  15
Glu Glu Asp Lys Met Lys Gln Asn Leu Gln Thr Ala Arg Arg Asn Leu
            20                  25                  30
Asn Ser Pro Asn Ile Lys Thr Arg Lys Arg Ala Leu Lys Ile Ile Lys
            35                  40                  45
Gln His Gln Arg Ser Lys
```

50

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<210> 4609
<211> 94
<212> PRT
<213> S.epidermidis

<400> 4609
Glu Arg Ile Thr Leu Pro Ala Pro Ile Ala Arg Thr Thr Lys Ala Thr
1               5                   10                  15
Leu Thr Ser Glu Cys Ser Lys Ser Gly Asn Thr Met Pro Val Val Asp
            20                  25                  30
Thr Ala Ala Thr Val Ala Asp Pro Asn Glu Ile Leu Lys Thr Ala Ala
            35                  40                  45
Thr Ile His Ala Asn Lys Met Gly Asp Met Leu Val Pro Ser Asn Ile
        50                  55                  60
Leu Ala Ile Val Ser Pro Thr Pro Pro Ser Met Ser Thr Cys Leu Asn
65                  70                  75                  80
Val Pro Pro Pro Pro Met Met Ser Asn Ile Met Pro Ile Gly
                85                  90
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<210> 4610
<211> 282
<212> PRT
<213> S.epidermidis

<400> 4610
Leu Cys Glu Phe Glu Ser Glu Gly Lys Ile Ser Met Asn Thr Leu Asp
1               5                   10                  15
Ser Lys Tyr Glu Leu Lys Ser Lys Lys His Arg Gln Arg Ile Ile Lys
            20                  25                  30
Asn Trp Val Ile Val Thr Val Val Ala Ala Val Ile Ile Trp Ala Phe
            35                  40                  45
Ala Gly Ile Pro Gly Leu Glu Leu Lys Ser Lys Ser Ile Glu Ile Leu
        50                  55                  60
Lys Ser Ile Phe Tyr Gly Leu Phe His Pro Asp Leu Ser Tyr Ile Tyr
65                  70                  75                  80
Ile Pro Asp Gly Glu Asp Leu Leu Arg Gly Leu Leu Glu Thr Phe Ala
                85                  90                  95
Ile Ala Val Ile Gly Thr Phe Ile Ala Ser Ile Ile Cys Ile Pro Phe
                100                 105                 110
Ala Phe Leu Gly Ala Lys Asn Met Met Lys Leu Arg Pro Val Thr Gly
            115                 120                 125
Ile Ser Lys Phe Ile Leu Ser Ile Ile Arg Val Phe Pro Glu Ile Val
            130                 135                 140
Met Ala Leu Ile Phe Ile Lys Ala Val Gly Pro Gly Ser Phe Ser Gly
145                 150                 155                 160
Val Leu Ala Leu Gly Ile His Ser Val Gly Met Leu Gly Lys Leu Phe
                165                 170                 175
Val Glu Asp Ile Glu Ser Leu Asp Phe Ser Ala Val Glu Ser Leu Lys
            180                 185                 190
Ala Ser Gly Ala Asn Lys Met Lys Thr Leu Met Phe Ala Val Ile Pro
            195                 200                 205
Gln Ile Leu Pro Ser Phe Ile Ser Leu Ile Leu Tyr Arg Phe Glu Leu
            210                 215                 220
Asn Leu Arg Ser Ala Ser Ile Leu Gly Leu Ile Gly Ala Gly Gly Ile
```

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225                     230                     235                     240
Gly Thr Pro Leu Ile Phe Ala Leu Gln Thr Arg Ser Trp Asp Arg Val
                        245                     250                     255
Gly Met Ile Leu Ile Gly Leu Ile Ala Met Val Ala Leu Val Asp Leu
                        260                     265                     270
Ile Ser Gly Ala Val Arg Lys Arg Ile Val
                        275                     280
```

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<210> 4611
<211> 59
<212> PRT
<213> S.epidermidis
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```
<400> 4611
Leu Phe Ala Thr Phe Ile Tyr Leu Ile Leu Phe Glu Gln Val Lys Tyr
1                   5                   10                  15
Thr Phe Thr Cys Val Gln Phe Ile Lys Ser Ile His Lys Ile Leu Phe
                20                  25                  30
Leu Ile Asn Ser Met Ala Tyr Tyr Thr Phe Leu Tyr Phe Ile Ile His
            35                  40                      45
Ile Phe Asn Thr Asn Leu Val Ile Lys Thr Phe
        50                  55
```

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<210> 4612
<211> 482
<212> PRT
<213> S.epidermidis
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```
<400> 4612
Lys Ala Tyr Thr Phe Ser Ile Pro Pro Ser Lys Gly Glu Met Asn Met
1                   5                   10                  15
Asn Asp Thr Gly Asp Lys Arg Leu Ser Arg Thr Ser Leu Ile Gly Leu
                20                  25                  30
Val Ile Gly Ser Met Ile Gly Gly Ala Phe Asn Ile Gln Ser Asp
            35                  40                      45
Met Gly Gly His Ala Gly Gly Leu Ala Ile Ile Ile Gly Trp Leu Ile
        50                  55                  60
Thr Ala Ile Gly Met Ile Ser Leu Ala Leu Val Phe Gln Asn Leu Thr
65                  70                  75                  80
Asn Glu Arg Ser Asp Leu Asp Gly Gly Ile Tyr Ser Tyr Ala Gln Ala
                85                  90                  95
Gly Phe Gly Asp Phe Ile Gly Phe Ala Ser Ala Trp Gly Tyr Trp Phe
                100                 105                 110
Ser Ala Phe Leu Gly Asn Val Ala Tyr Ala Thr Leu Leu Met Ser Ser
            115                 120                 125
Ile Gly Asn Phe Phe Pro Ile Phe Lys Gly Gly Asn Thr Phe Pro Ser
        130                 135                 140
Ile Ile Val Ala Ser Ile Leu Leu Trp Ser Val His Phe Leu Ile Leu
145                 150                 155                 160
Lys Gly Val Glu Thr Ala Ala Leu Ile Asn Ser Ile Val Thr Ile Thr
                165                 170                 175
Lys Leu Ile Pro Ile Leu Leu Val Ile Ile Cys Met Ile Val Ala Phe
            180                 185                 190
Asn Phe Asn Thr Phe Arg Ile Gly Phe Phe Gly Met Asp Gly Tyr Gly
            195                 200                 205
Ser Leu Ser Phe His Phe Ala Asn Thr Met Ser Gln Val Lys Ser Thr
```

```
         210                    215                    220
Met Leu Val Thr Val Trp Val Phe Ile Gly Ile Glu Gly Ala Val Val
225                    230                    235                    240
Phe Ser Gly Arg Ala Lys Asn Lys Lys Asp Val Gly Thr Ala Thr Val
                 245                    250                    255
Ile Gly Leu Ile Ser Val Leu Leu Ile Tyr Phe Leu Leu Thr Val Leu
                 260                    265                    270
Ala Gln Gly Ile Val Ile Gln Asn His Ile Ser Lys Leu Glu Ala Pro
                 275                    280                    285
Ser Met Ala Gln Ile Leu Ala Tyr Ile Val Gly Asp Trp Gly Ala Thr
            290                    295                    300
Phe Val Asn Ile Gly Leu Ile Ile Ser Val Leu Gly Ala Trp Leu Gly
305                    310                    315                    320
Trp Thr Leu Leu Ala Gly Glu Leu Pro Phe Ile Val Ala Lys Asp Gly
                 325                    330                    335
Leu Phe Pro Lys Trp Phe Ala Lys Glu Asn Lys Asn Gly Ala Pro Met
                 340                    345                    350
Asn Ala Leu Phe Ile Thr Asn Val Leu Val Gln Ile Phe Leu Ile Ser
                 355                    360                    365
Met Leu Phe Thr Lys Ser Ala Tyr His Phe Ala Phe Ser Leu Ala Ala
            370                    375                    380
Ser Ala Ile Leu Tyr Pro Tyr Met Phe Ser Ala Phe Tyr Gln Val Lys
385                    390                    395                    400
Tyr Thr Ile Glu Tyr Lys Leu Thr Ala Thr Pro Lys Gln Trp Ile Ile
                 405                    410                    415
Gly Ile Leu Ala Ser Ile Tyr Ala Ile Trp Leu Val Tyr Ala Ser Gly
            420                    425                    430
Ile Asp Tyr Leu Leu Leu Thr Met Leu Leu Tyr Ile Pro Gly Ile Ile
            435                    440                    445
Val Tyr Val Val Val Gln Lys Asn Asn Gln Lys Arg Leu Thr Gln Phe
            450                    455                    460
Asp Tyr Ile Phe Phe Gly Leu Ile Val Ile Leu Ala Leu Ile Gly Leu
465                    470                    475                    480
Leu Arg


<210> 4613
<211> 71
<212> PRT
<213> S.epidermidis


<400> 4613
Tyr Leu His Thr Phe Leu Lys Lys Pro Gly Ser Ala Asn Gly Ile Val
1                 5                    10                    15
Ser Met Met Gly Gly Ile Gly Gly Phe Phe Pro Pro Leu Val Ile Thr
            20                    25                    30
Phe Val Thr Ser Ile Thr Gly Ser Ser His Leu Ala Phe Phe Phe Leu
            35                    40                    45
Ala Ile Phe Gly Val Ile Ala Leu Ile Thr Met Ile His Leu Asn Lys
            50                    55                    60
Lys Glu Lys Ala Ile Arg Ile
65                    70


<210> 4614
<211> 45
<212> PRT
```

<213> S.epidermidis

<400> 4614
Ala Pro Asn Thr Met Asn Ala Glu Gly Thr Ser Lys Ile Asn Thr Ile
1   5   10   15
Ile Val Leu Glu Asn Leu Val Lys Phe Phe Gly Ile Thr Val Asn Ala
            20   25   30
Leu Asn Pro Phe Phe Leu Ile Gly Val Ser Ile Asn Leu
        35   40   45

<210> 4615
<211> 794
<212> PRT
<213> S.epidermidis

<400> 4615
Met Ala Asn Thr Thr Leu Thr Leu Asp Ile Ile Gly Met Thr Cys Ala
1   5   10   15
Ala Cys Ser Asn Arg Ile Glu Lys Lys Leu Asn Arg Met Asn His Val
            20   25   30
Gln Ala Lys Val Asn Leu Thr Thr Glu Lys Ala Thr Ile Asp Tyr Glu
        35   40   45
Ser Asp Asp Tyr His Leu Glu Asp Phe Val Glu Gln Ile Gln Ser Leu
    50   55   60
Gly Tyr Asp Val Ala Val Glu Gln Val Glu Leu Asn Ile Asn Gly Met
65   70   75   80
Thr Cys Ala Ala Cys Ser Asn Arg Ile Glu Lys Val Leu Asn Gln Thr
                85   90   95
Gln Gly Val Gln Gln Ala Thr Val Asn Leu Thr Thr Glu Gln Ala Leu
            100   105   110
Ile Lys Tyr Tyr Pro Ser Ala Thr Asn Thr Glu Ala Leu Ile Lys Arg
        115   120   125
Ile Gln Asn Ile Gly Tyr Asp Ala Glu Thr Lys Thr Ser Ser Lys Ala
        130   135   140
Gln Ser Asn Arg Lys Lys Gln Glu Leu Lys His Lys Arg Asn Lys Leu
145   150   155   160
Ile Ile Ser Ala Ile Leu Ser Leu Pro Leu Leu Leu Val Met Val Val
                165   170   175
His Ile Ser Pro Ile Ser Ile Pro Ser Ile Leu Val Asn Pro Trp Val
            180   185   190
Gln Leu Ile Leu Ser Thr Pro Val Gln Phe Ile Ile Gly Trp Gln Phe
        195   200   205
Tyr Val Gly Ala Tyr Lys Asn Leu Arg Asn Gly Ser Ala Asn Met Asp
    210   215   220
Val Leu Val Ala Val Gly Thr Ser Ala Ala Tyr Phe Tyr Ser Ile Tyr
225   230   235   240
Glu Met Met Met Trp Leu Thr His Gln Thr His His Pro His Leu Tyr
                245   250   255
Phe Glu Thr Ser Ala Ile Leu Ile Thr Leu Ile Leu Leu Gly Lys Tyr
            260   265   270
Leu Glu Ala Arg Ala Lys Ser Gln Thr Thr Asn Ala Leu Ser Glu Leu
        275   280   285
Leu Asn Leu Gln Ala Lys Glu Ala Arg Val Ile Lys Glu Asn Lys Glu
        290   295   300
Ile Met Leu Pro Leu Asp Lys Val Lys Val Gly Asp Thr Leu Leu Ile
305   310   315   320

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Lys Pro Gly Glu Lys Ile Pro Val Asp Gly Lys Val Thr Lys Gly Asp
                325                 330                 335
Thr Ser Ile Asp Glu Ser Met Leu Thr Gly Glu Ser Ile Pro Val Glu
                340                 345                 350
Lys Ser Ser Gly Asp Ser Val Ile Gly Ser Thr Met Asn Lys Asn Gly
                355                 360                 365
Ser Ile Met Ile Glu Ala Thr Gln Val Gly Gly Asp Thr Ala Leu Ser
    370                 375                 380
His Ile Ile Lys Val Val Glu Asp Ala Gln Ser Ser Lys Ala Pro Ile
385                 390                 395                 400
Gln Arg Leu Ala Asp Ile Ile Ser Gly Tyr Phe Val Pro Ile Val Val
                405                 410                 415
Ser Ile Ala Val Ile Thr Phe Ile Ile Trp Ile Ile Phe Val His Pro
            420                 425                 430
Gly Gln Phe Glu Pro Ala Leu Val Ser Ala Ile Ser Val Leu Val Ile
                435                 440                 445
Ala Cys Pro Cys Ala Leu Gly Leu Ala Thr Pro Thr Ser Ile Met Val
    450                 455                 460
Gly Thr Gly Arg Ala Ala Glu Asn Gly Ile Leu Phe Lys Gly Gly Gln
465                 470                 475                 480
Phe Val Glu Arg Ala His Tyr Val Asp Thr Ile Val Leu Asp Lys Thr
                485                 490                 495
Gly Thr Ile Thr Asn Gly Gln Pro Val Val Thr Asp Tyr Val Gly Asp
                500                 505                 510
Asn Asp Thr Leu Gln Leu Leu Ala Ser Ala Glu Asn Ala Ser Glu His
        515                 520                 525
Pro Leu Ala Asp Ala Ile Val Thr Tyr Ala Lys Asp Lys Gly Leu Asn
    530                 535                 540
Leu Leu Asp Asn Asp Thr Phe Lys Ser Ile Pro Gly His Gly Ile Lys
545                 550                 555                 560
Ala Thr Ile His Gln Gln Gln Ile Leu Val Gly Asn Arg Lys Leu Met
                565                 570                 575
Asn Asp Tyr Asn Ile Ser Ile Ser Asn Lys Leu Asn Asp Gln Leu Asn
            580                 585                 590
His Tyr Glu His Leu Ser Gln Thr Ala Met Met Ile Ala Val Asp Asn
        595                 600                 605
Gln Ile Asn Gly Ile Ile Ala Val Ala Asp Thr Val Lys Asn Asp Ala
    610                 615                 620
Lys Gln Ala Ile Lys Glu Leu Arg Asn Met Asn Ile Asp Val Val Met
625                 630                 635                 640
Leu Thr Gly Asp Asn Asn Arg Thr Ala Gln Thr Ile Ala Lys Gln Val
                645                 650                 655
Gly Ile Glu His Val Ile Ala Glu Val Leu Pro Glu Glu Lys Ala His
            660                 665                 670
Gln Ile Ser Leu Leu Gln Asp Lys Gly Lys Gln Val Ala Met Val Gly
    675                 680                 685
Asp Gly Ile Asn Asp Ala Pro Ala Leu Val Lys Ala Asp Ile Gly Met
    690                 695                 700
Ala Ile Gly Thr Gly Ala Glu Val Ala Ile Glu Ala Ala Asp Ile Thr
705                 710                 715                 720
Ile Leu Gly Gly Asp Leu Leu Leu Val Pro Lys Ala Ile Lys Ala Ser
                725                 730                 735
Lys Ala Thr Ile Lys Asn Ile Arg Gln Asn Leu Phe Trp Ala Phe Gly
            740                 745                 750
Tyr Asn Val Ala Gly Ile Pro Ile Ala Ala Cys Gly Leu Leu Ala Pro
            755                 760                 765
```

Trp Ile Ala Gly Ala Ala Met Ala Leu Ser Ser Val Ser Val Val Met
    770   775   780
Asn Ala Leu Arg Leu Lys Lys Met Lys Leu
785   790

<210> 4616
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4616
Asp Ser Gly Thr Leu Gln Thr Cys Thr Lys Arg Val Asn Gly Gln His
1   5   10   15
Ala Asn Thr Val Asn Pro Asn Asn Met Cys Ser Leu Asn Asp Gln Gly
            20   25   30
Thr Phe Asn Ile Lys Ser Ala Phe Gly Glu Asn Met Asn Lys Cys Leu
        35   40   45
Asn His Ile Ala Met Val
    50

<210> 4617
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4617
Pro Tyr Val Thr Phe Tyr Pro Pro Gln Phe Asn Ala Leu Leu Leu Val
1   5   10   15
Tyr Lys Tyr Val Asn Ile Gln Lys Phe Val Leu Gln Ala Leu Ser Phe
            20   25   30
Arg Cys Phe Asp Ile Leu Asn Thr Ile
        35   40

<210> 4618
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4618
Arg Ala Tyr Thr Tyr Asp Met Ala Asp Ser Leu Ile Ile Ser Phe Thr
1   5   10   15
Phe Val Tyr Ser Gly Phe Ile Gln Asn Ile Thr Asn Glu Thr Arg Leu
            20   25   30
Phe Tyr Ser Leu Ile Gln Glu Val Asp Arg His Leu Phe
        35   40   45

<210> 4619
<211> 112
<212> PRT
<213> S.epidermidis

<400> 4619
Cys Ile Arg Phe His Ile Ile Asn Leu Ile Thr Leu Phe Ile Leu Ser
1   5   10   15
Tyr Tyr Ile Ile Asn Asn Leu Ile Pro Phe Thr Ile Leu Ile Ile Asn
            20   25   30

```
Asn Thr Ser Glu Ala Ile Ser Arg Ile Pro Pro Ile Ile Thr Pro Ile
        35                  40                  45
Thr Ser Thr Ala Thr Pro Phe Val Glu Ser Ile Lys Asp Ser Pro Ala
        50                  55                  60
Ala Asn Asp Ile Ser Pro Asn Thr Lys His Thr Gln Leu Lys Ile Trp
65                  70                  75                  80
Leu Asn Asn Ala Phe Leu Glu Tyr Val Asp Ala Gly Gly Cys Pro Thr
                85                  90                  95
Ile His Thr Ile Asn Gly Asn Asn Thr Gly Ala Lys Asn Thr Leu Arg
        100                 105                 110
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<210> 4620
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4620
```
Gly Tyr Leu Thr Ile Phe Lys Ile Tyr Asn Leu Ile Leu Lys Arg Phe
1               5                   10                  15
Ile Ser Ile Met Ile Tyr Ile His Lys Lys Arg Glu Val Lys Gln Ile
        20                  25                  30
Val Thr His Tyr Ser Val Cys Cys Ala Tyr Ser Leu Ala Arg Asn
        35                  40                  45
```

<210> 4621
<211> 58
<212> PRT
<213> S.epidermidis

<400> 4621
```
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asn Tyr Lys Met Thr Lys
1               5                   10                  15
His Thr Leu Leu Met Glu Thr Ser Val Leu Ile Pro Thr Asn Asp Ile
        20                  25                  30
Ser Arg His Val Asn Val Ile Ala Glu Thr Ile Pro Glu Thr Glu Phe
        35                  40                  45
Asp Lys Phe Arg His Tyr Arg Cys Leu Ile
    50                  55
```

<210> 4622
<211> 58
<212> PRT
<213> S.epidermidis

<400> 4622
```
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Glu Tyr Asn Leu Thr Gln
1               5                   10                  15
His Thr Leu Pro Met Glu Thr Ser Val Leu Ile Pro Thr Asn Asp Ile
        20                  25                  30
Ser Arg His Val Asn Asp Ile Val Glu Thr Ile Pro Asp Thr Glu Phe
        35                  40                  45
Asp Glu Phe Arg His His Arg Gly Leu Ile
    50                  55
```

<210> 4623
<211> 69

```
<212> PRT
<213> S.epidermidis

<400> 4623
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asp Tyr Asn Val Thr Gln
1               5                   10                  15
Leu Thr Leu Pro Met Lys Thr Ser Phe Phe Ile Pro Ala Asn Asp Ile
            20                  25                  30
Ser Arg His Ala Asn Asp Ile Val Glu Thr Ile Pro Glu Thr Glu Phe
        35                  40                  45
Asp Glu Leu Arg His His Arg Gly Ala Thr Ser Tyr His Ser Lys Met
        50                  55                  60
Ile Leu Lys Glu Leu
65


<210> 4624
<211> 58
<212> PRT
<213> S.epidermidis

<400> 4624
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asp Tyr Asn Met Thr Gln
1               5                   10                  15
His Thr Leu Leu Met Glu Thr Ser Val Leu Ile Pro Thr Asn Asp Ile
            20                  25                  30
Ser Arg His Val Asn Asp Ile Ala Glu Thr Ile Pro Asp Thr Glu Phe
        35                  40                  45
Asp Glu Phe Arg His Tyr Arg Gly Leu Ile
        50                  55


<210> 4625
<211> 58
<212> PRT
<213> S.epidermidis

<400> 4625
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asp Tyr Asn Met Ile Gln
1               5                   10                  15
His Thr Leu Leu Met Gly Thr Ser Val Leu Ile Pro Thr Asn Asn Ile
            20                  25                  30
Ser Arg His Val Asn Asp Ile Val Glu Thr Ile Pro Asp Thr Glu Phe
        35                  40                  45
Asp Glu Phe Arg His Pro Arg Gly Leu Ile
        50                  55


<210> 4626
<211> 58
<212> PRT
<213> S.epidermidis

<400> 4626
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asp Tyr Asn Met Thr Gln
1               5                   10                  15
His Thr Leu Leu Met Glu Thr Ser Val Leu Ile Ser Thr Asn Asp Ile
            20                  25                  30
Ser Arg His Val Asn Asp Ile Ala Glu Thr Ile His Tyr Thr Glu Phe
```

```
            35                    40                      45
Asp Glu Phe Arg His Pro Arg Gly Leu Ile
    50                    55


<210> 4627
<211> 58
<212> PRT
<213> S.epidermidis


<400> 4627
Thr Lys Leu Thr Arg Cys Leu Met Tyr Lys Asp Tyr Asn Met Thr Gln
1                   5                   10                      15
His Thr Leu Leu Met Glu Thr Ser Val Leu Ile Ser Thr Asn Asp Ile
            20                    25                    30
Ser Arg His Val Asn Asp Ile Ala Glu Thr Ile Pro Asp Thr Glu Phe
        35                    40                    45
Asp Glu Phe Arg His Tyr Arg Gly Leu Ile
    50                    55


<210> 4628
<211> 435
<212> PRT
<213> S.epidermidis


<400> 4628
Lys Arg Leu Thr His Arg Arg Cys Ile Thr Met Ser Glu Asn Ile Ile
1                   5                   10                      15
Met Pro Lys Leu Gly Met Thr Met Lys Glu Gly Thr Val Glu Glu Trp
            20                    25                    30
Phe Lys Ser Glu Gly Asp Thr Val Lys Gln Gly Glu Ser Ile Val Thr
        35                    40                    45
Ile Ser Ser Glu Lys Leu Thr Asn Asp Val Glu Ala Pro Ala Ser Gly
    50                    55                    60
Thr Leu Leu Glu Ile Lys Val Gln Ala Gly Glu Asp Ala Glu Val Lys
65                    70                    75                    80
Ala Val Leu Gly Ile Ile Gly Glu Glu Gly Glu Ala Ile Asp Lys Asp
                85                    90                    95
Glu Asp Asp Leu Ala Ser Glu Lys Val Lys Glu Asp Asn Glu His Glu
            100                   105                   110
Lys Glu Thr Gln Glu Val Lys Asp Thr Ser Gln Pro Ser Ser Asp Asn
        115                   120                   125
Lys Asp Asn Ser Pro Lys Ser Ala Ala Arg Glu Arg Ile Phe Ile Ser
    130                   135                   140
Pro Leu Ala Arg Asn Met Ala Glu Asp Lys Gly Leu Asp Ile Asn Lys
145                   150                   155                   160
Ile Lys Gly Thr Gly Gly Asn His Arg Ile Thr Lys Leu Asp Ile Gln
                165                   170                   175
Arg Val Glu Ala Asn Gly Tyr Asp Tyr Ala Ser Asp Thr Thr Ser Asn
            180                   185                   190
Glu Asp Thr Ser His Val Pro Thr Gln Thr Val Asp Thr Ser Ala Ile
        195                   200                   205
Gly Glu Gly Leu Asn Pro Met Arg Gln Arg Ile Ala Gln Asn Met Arg
    210                   215                   220
Gln Ser Leu Asn Ser Thr Ala Gln Leu Thr Leu His Arg Lys Val Asp
225                   230                   235                   240
Ala Asp Arg Leu Leu Asp Phe Lys Asp Arg Leu Ala Thr Glu Leu Lys
```

```
                  245                    250                    255
      Gln Ala Asp Gln Asp Val Lys Leu Thr Val Thr Thr Leu Leu Ala Lys
                  260                    265                    270
      Ala Val Val Leu Ala Leu Lys Glu Tyr Gly Ala Met Asn Ala Arg Tyr
                  275                    280                    285
      Glu Gln Gly Glu Leu Thr Glu Tyr Glu Asp Val His Leu Gly Ile Ala
              290                    295                    300
      Thr Ser Leu Asp Glu Gly Leu Met Val Pro Val Ile Asn His Ala Asp
      305                    310                    315                    320
      Thr Lys Ser Ile Gly Thr Leu Ala His Glu Ile Lys Ser Ser Ala Glu
                  325                    330                    335
      Ala Val Arg Glu Gly Asn Thr Gly Ala Val Gln Leu Glu Gly Ala Thr
                  340                    345                    350
      Phe Thr Ile Thr Asn Met Gly Ala Ser Gly Ile Glu Tyr Phe Thr Pro
                  355                    360                    365
      Ile Leu Asn Leu Gly Glu Thr Gly Ile Leu Gly Val Gly Ala Leu Thr
                  370                    375                    380
      Lys Glu Val Val Leu Glu Ala Asp Asn Ile Lys Gln Val Ser Lys Ile
      385                    390                    395                    400
      Pro Leu Ser Leu Thr Phe Asp His Gln Ile Leu Asp Gly Ala Gly Ala
                  405                    410                    415
      Ala Asp Phe Leu Lys Val Leu Ala Lys Tyr Ile Glu Asn Pro Tyr Leu
                  420                    425                    430
      Leu Met Leu
              435


      <210> 4629
      <211> 58
      <212> PRT
      <213> S.epidermidis

      <400> 4629
      Pro Leu Ile Thr Leu Cys Lys Leu Leu Ser Thr Leu Leu Leu His His
      1                   5                    10                     15
      Lys Ile Lys Arg Met Pro Ile Thr Phe Met Lys Ser Tyr Lys Tyr His
                  20                     25                     30
      Trp Gln Thr Tyr Asn Phe Glu Ser Leu Leu Phe Phe Phe Ser Lys Met
                  35                     40                     45
      Tyr Lys Lys Tyr Cys Pro Met Ile Gln Leu
          50                     55


      <210> 4630
      <211> 46
      <212> PRT
      <213> S.epidermidis

      <400> 4630
      Phe Lys Ile Thr Asn His Thr Ile Pro Ser Gln Phe Ile Phe Tyr Lys
      1                   5                    10                     15
      His Arg Phe Tyr Ile Lys Asn Lys Leu Ala Ser Leu Tyr Ile Lys Thr
                  20                     25                     30
      Asn Ser Asn Ile Ile Ser Leu Tyr Ile Phe Lys Asn Val Val
              35                     40                     45


      <210> 4631
      <211> 98
```

<212> PRT
<213> S.epidermidis

<400> 4631
Lys Trp Ile Thr Pro Ile Leu Phe Ile Asp Ile Val Ile Phe Thr Pro
1   5   10   15
Ile Ile Glu Glu Leu Leu Phe Arg His Leu Ile Ile His Glu Leu Gly
            20   25   30
Lys Lys Leu Thr Tyr Gly Leu Met Tyr Ile Val Ser Ile Val Gly Phe
            35   40   45
Thr Tyr Phe His Cys Thr Asp Ala Val Ser Pro Phe Glu Ala Gly Pro
        50   55   60
Tyr Phe Ile Ala Ala Val Val Phe Val Ile Gly Tyr His Phe Ser His
65   70   75   80
Arg Asn Leu Ala Val Pro Ile Ala Leu His Met Ile Thr Asn Leu Ile
                85   90   95
Ala Phe

<210> 4632
<211> 74
<212> PRT
<213> S.epidermidis

<400> 4632
Asn Phe Ser Thr Pro Phe Thr Tyr Ile Tyr Val Tyr Val Arg Asn Asn
1   5   10   15
Tyr Val Ser Val Ser Gln Thr Thr Thr Arg Glu Asp Tyr Ile Met Ser
            20   25   30
Gly Ile Val Glu Ser Leu His Asn Ala Val Asn Ala Gly Leu His Val
            35   40   45
Lys Gln Asp Trp Val Asp Met Gly Phe Gly Ile Ala Asp Thr Val Ala
        50   55   60
Lys Ile Val Asp Gln Val Leu Lys Phe Val
65   70

<210> 4633
<211> 63
<212> PRT
<213> S.epidermidis

<400> 4633
Trp Ser Pro Thr Gly Ile Phe Asn Lys Met Pro Lys Met Thr Ile Lys
1   5   10   15
Val Met Ile Val Lys Asn Ile Lys Ile Ile Phe Gln Leu Ala Ile Asp
            20   25   30
Lys Ala Arg Pro Pro Asn Ser Gly Ala Met Met Val Ile Ile Pro Phe
            35   40   45
Met Thr Ile Arg Glu Val Lys Asn Phe Ala Asn Leu Phe Pro Ser
        50   55   60

<210> 4634
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4634
Tyr Ile Thr Thr Phe Met Leu Asn Cys Ala Phe Asn Phe Tyr Phe Arg
1   5   10   15
Glu Lys Arg Cys Leu Glu Gly Ile His Ile Tyr Arg Tyr Ile Gly Gly
            20   25   30
Ile Phe Asn Gly Phe Thr Leu Cys Tyr Lys Phe Lys Thr Ser
        35   40   45

<210> 4635
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4635
Asn Phe Thr Thr Phe Phe Trp Lys Ile Tyr Leu Leu Leu Ile Ala Lys
1   5   10   15
Tyr His His Ser Leu Met Tyr Thr Ser Phe Leu Phe Asn Glu Tyr Ser
            20   25   30
Asn Ile Asp Thr Leu Lys Lys Phe Lys Lys Pro
        35   40

<210> 4636
<211> 806
<212> PRT
<213> S.epidermidis

<400> 4636
Thr His Gln Thr Ile Thr Gly Val Ile Arg Met Ala Lys Gly Val Asn
1   5   10   15
Gln Ile Ile Asn Asn Ile Arg Leu Arg Lys Leu Arg Lys Ile Leu Asn
            20   25   30
Gln Ile Asn Ala Leu Ser Glu Glu Phe Ser Asn Phe Ser Asp Glu Ala
        35   40   45
Leu Gln Ala Lys Thr Lys Glu Phe Lys Val Tyr Leu Asn Asp Asn Lys
    50   55   60
Ala Ser Leu Asn His Ile Leu Pro Gln Ala Tyr Ala Thr Val Arg Glu
65   70   75   80
Ala Ser Lys Arg Val Leu Gly Met Tyr Pro Lys Asp Val Gln Ile Leu
                85   90   95
Gly Ala Ile Ala Met His Gln Gly Asn Ile Ala Glu Met Gln Thr Gly
            100   105   110
Glu Gly Lys Thr Leu Thr Ala Thr Met Leu Leu Tyr Leu Asn Ala Leu
        115   120   125
Thr Gly Lys Gly Ala Tyr Leu Ile Thr Thr Asn Asp Tyr Leu Ala Lys
        130   135   140
Arg Asp Phe Leu Glu Met Lys Pro Leu Tyr Glu Trp Leu Gly Leu Ser
145   150   155   160
Val Ser Leu Gly Phe Val Asp Ile Pro Glu Tyr Glu Tyr Ala Glu Asn
            165   170   175
Glu Lys Tyr Glu Leu Tyr His His Asp Ile Val Tyr Thr Thr Asn Gly
        180   185   190
Arg Leu Gly Phe Asp Tyr Leu Ile Asp Asn Leu Ala Asp Asp Ile Arg
        195   200   205
Ala Lys Phe Leu Pro Lys Leu Asn Phe Ala Ile Ile Asp Glu Val Asp
    210   215   220
Ser Ile Ile Leu Asp Ala Ala Gln Thr Pro Leu Val Ile Ser Gly Ala

```
225                 230                 235                 240
Pro Arg Val Gln Ser Asn Leu Phe His Ile Val Lys Thr Phe Val Glu
                245             250             255
Thr Leu Glu Lys Asp Lys Asp Phe Ile Val Asn Phe Asn Lys Lys Glu
            260             265             270
Val Trp Leu Thr Asp Glu Gly Ser Glu Lys Ala Ser His Tyr Phe Lys
        275             280             285
Val Asn Ser Ile Tyr Gln Gln Tyr Phe Asp Leu Val Arg Met Ile
        290             295             300
His Leu Ser Leu Arg Ala Lys Tyr Leu Phe Lys Tyr Asn Leu Asp Tyr
305             310             315             320
Phe Ile Phe Asp Gly Glu Ile Val Leu Ile Asp Arg Ile Thr Gly Arg
                325             330             335
Met Leu Pro Gly Thr Lys Leu Gln Ser Gly Leu His Gln Ala Ile Glu
            340             345             350
Ala Leu Glu Asn Val Glu Ile Ser Gln Asp Met Ser Val Met Ala Thr
            355             360             365
Ile Thr Phe Gln Asn Leu Phe Lys Gln Phe Asp Glu Phe Ser Gly Met
        370             375             380
Thr Gly Thr Gly Lys Leu Gly Glu Lys Glu Phe Phe Asp Leu Tyr Ser
385             390             395             400
Lys Val Val Ile Glu Ile Pro Thr His Ser Pro Ile Glu Arg Asp Asp
                405             410             415
Arg Pro Asp Arg Val Phe Ala Asn Gly Asp Lys Lys Asn Asp Ala Ile
            420             425             430
Leu Lys Thr Val Ile Gly Ile His Glu Thr Gln Gln Pro Val Leu Leu
            435             440             445
Ile Thr Arg Thr Ala Glu Ala Ala Glu Tyr Phe Ser Ala Glu Leu Phe
        450             455             460
Lys Arg Asp Ile Pro Asn Asn Leu Leu Ile Ala Gln Asn Val Ala Lys
465             470             475             480
Glu Ala Gln Met Ile Ala Glu Ala Gly Gln Leu Ser Ala Val Thr Val
                485             490             495
Ala Thr Ser Met Ala Gly Arg Gly Thr Asp Ile Lys Leu Ser Lys Glu
            500             505             510
Val His Asp Ile Gly Gly Leu Ala Val Ile Ile Asn Glu His Met Asp
        515             520             525
Asn Ser Arg Val Asp Arg Gln Leu Arg Gly Arg Ser Gly Arg Gln Gly
        530             535             540
Asp Pro Gly Tyr Ser Gln Ile Phe Val Ser Leu Asp Asp Asp Leu Val
545             550             555             560
Lys Arg Trp Ser Asn Ser Asn Leu Ala Glu Asn Lys Asn Leu Gln Thr
            565             570             575
Met Asp Ala Ser Lys Leu Glu Ser Ser Ala Leu Phe Lys Lys Arg Val
            580             585             590
Lys Ser Ile Val Asn Lys Ala Gln Arg Val Ser Glu Glu Thr Ala Met
        595             600             605
Lys Asn Arg Glu Met Ala Asn Glu Phe Glu Lys Ser Ile Ser Val Gln
        610             615             620
Arg Asp Lys Ile Tyr Ala Glu Arg Asn His Ile Leu Glu Ala Ser Asp
625             630             635             640
Phe Asp Asp Phe Asn Phe Glu Gln Leu Ala Arg Asp Val Phe Thr Lys
                645             650             655
Asp Val Lys Asn Leu Asp Leu Ser Ser Glu Arg Ala Leu Val Asn Tyr
            660             665             670
Ile Tyr Glu Asn Leu Ser Phe Val Phe Asp Glu Asp Val Ser Asn Ile
```

```
          675                 680                 685
Asn Met Gln Asn Asp Glu Glu Ile Ile Gln Phe Leu Ile Gln Gln Phe
    690                 695                 700
Thr Gln Gln Phe Asn Asn Arg Leu Glu Val Ala Ala Asp Ser Tyr Leu
705                 710                 715                 720
Lys Leu Arg Phe Ile Gln Lys Ser Ile Leu Lys Ala Ile Asp Ser Glu
                725                 730                 735
Trp Ile Glu Gln Val Asp Asn Leu Gln Leu Lys Ala Ser Val Asn
            740                 745                 750
Asn Arg Gln Asn Gly Gln Arg Asn Val Ile Phe Glu Tyr His Lys Val
        755                 760                 765
Ala Leu Glu Thr Tyr Glu Tyr Met Ser Glu Asp Ile Lys Arg Lys Met
    770                 775                 780
Val Arg Asn Leu Cys Leu Ser Ile Leu Ala Phe Asp Lys Asp Gly Asp
785                 790                 795                 800
Met Val Ile His Phe Pro
                805
```

<210> 4637
<211> 524
<212> PRT
<213> S.epidermidis

<400> 4637
```
Asn Ile Lys Thr His Ser Arg Gly Glu Cys Met Ser Lys Ile Leu Leu
1               5                   10                  15
Thr Gly Ala Ser Gly Tyr Ile Gly Asn His Leu Lys Asn Lys Leu Lys
            20                  25                  30
Lys Asp His Glu Val Ile Ala Ile Ser Arg Asn Thr His Asn Lys Thr
        35                  40                  45
Asp Glu Glu Asn Val Thr Trp Lys Ser Ala Asp Leu Phe Asp Leu Asp
    50                  55                  60
Glu Val Thr Lys Val Met Lys Asp Val Asp Thr Ala Ile Tyr Leu Val
65                  70                  75                  80
His Ser Met Met Pro Ser Ala Lys Leu Thr Gln Ala Ser Phe Glu Asp
                85                  90                  95
Met Asp Ala Leu Leu Ala Asp Asn Phe Ala Arg Ala Ala Gln Lys Gln
            100                 105                 110
Gly Val Lys His Ile Val Tyr Met Ser Gly Leu Ile Pro Glu Asn Asp
        115                 120                 125
Glu Leu Ser Ala His Leu Arg Ser Arg Leu Glu Cys Glu Lys Ile Leu
    130                 135                 140
Gly Asp Tyr Gly Ile Pro Val Ser Thr Leu Arg Ala Gly Leu Ile Ile
145                 150                 155                 160
Gly Ala Lys Gly Ser Ser Tyr Pro Ile Leu Lys Arg Leu Val Glu Arg
                165                 170                 175
Leu Pro Ala Met Val Leu Pro Ser Trp Ala Tyr Asn Lys Ile Ala Pro
            180                 185                 190
Val Ala Ile Asp Asp Val Ile Asp Gly Leu Ala Ala Leu Val Asn Arg
        195                 200                 205
Thr Pro Lys Asp Asn Glu Ala Ile Asp Ile Thr Gly Pro Glu Val Met
    210                 215                 220
Asn Tyr Lys Thr Leu Ile Gln Arg Thr Ala Asn Val Leu Asp Lys Arg
225                 230                 235                 240
Leu Pro Met Leu Asp Leu Pro Ile Ile Pro Ile Ile Val Ser Arg Tyr
                245                 250                 255
```

Trp Val Gln Leu Ile Ser Asn Val Pro Lys Glu Met Val Tyr Pro Leu
            260   265   270
Met Asn Ser Leu Thr His Asp Met Val Pro His Arg Lys Arg Val Val
            275   280   285
Ser Asn Leu Ser Val Gly Asn Ile Thr Phe Glu Asp Ser Val Lys Arg
            290   295   300
Ala Leu Arg Glu Glu Gln Lys Thr Ser Lys Lys Lys Ser Asp Ser Lys
305   310   315   320
Asn Ser Gln Ser Phe Gly Leu Met His Gln Glu Ile Lys Asp Val Arg
            325   330   335
Ala Ile Thr Arg Phe Lys Ile Pro Glu Gly Tyr Ser Ile Lys Asp Val
            340   345   350
Thr Lys Glu Tyr Ala Lys Phe Ile Asn Asn Ile Thr Leu His Ile Val
            355   360   365
Lys Gly Thr Ile Asn Glu Arg Glu Phe Asn Met Asn Leu Pro Phe Ile
            370   375   380
Asn Lys Phe Ile Leu Lys Met Glu Arg Asp Glu Ala Asp Ser Thr Glu
385   390   395   400
Asp Met Val Val Tyr Asn Ile Val Gly Gly Asp Leu Ala His Ser Asn
            405   410   415
Asp Gly Gly Asn Ala Arg Phe Glu Phe Arg Arg Ile Arg Asn Thr Asn
            420   425   430
Glu Gly Ile Ile Ala Leu Gln Glu Tyr Glu Pro Thr Leu Pro Trp Val
            435   440   445
Val Tyr Lys Leu Thr Gln Ala Lys Ala His Lys Thr Val Met Asn Ile
            450   455   460
Phe Lys Asn Lys Met Ala Arg Leu Ala Gln Gln Lys Asn Val Lys Asp
465   470   475   480
Glu Thr Tyr Met Ser Asn Arg Val Thr Ile Gly Val Thr Val Ala Ser
            485   490   495
Ala Phe Val Ile Gly Ser Ala Val Gly Phe Gln Leu Phe Lys Lys His
            500   505   510
Gln Ile Lys Lys Asn Thr Met Ser Asn Ala Glu Leu
            515   520

<210> 4638
<211> 389
<212> PRT
<213> S.epidermidis

<400> 4638
Lys Met Lys Thr Val Ser Lys Tyr Phe Val Tyr Met Met Ile Leu Val
1   5   10   15
Thr Phe Phe Ile Val Val Ser Gly Cys Ser Ile Asn Gln Ser Phe Ser
            20   25   30
Asp Lys Gln Asn Thr Asn Lys Thr Ile Arg Val Val Ala Val Gly Asp
            35   40   45
Asn Leu Ile His Pro Val Val Tyr Lys Asp Ala Gln Ile Thr Gly Asn
            50   55   60
Ser Phe Asp Phe Lys Pro Met Tyr Gln Pro Val Lys Lys Asp Ile Gln
65   70   75   80
Asn Ala Asp Ile Ser Phe Val Asn Gln Glu Ser Pro Leu Gly Gly Asp
            85   90   95
Asp Arg Pro Tyr Ser Gly Phe Lys Asn Phe Asn Thr Pro Ser Ser Ile
            100   105   110
Ala Gln Asp Leu Val Asp Thr Gly Phe Asn Phe Val Asn Gly Ala Asn

```
                115                    120                    125
     Asn His Ala Leu Asp Gln Gly Glu Gln Gly Val Arg Asn His Ile His
        130                    135                    140
     Thr Trp Asn Lys Phe Lys Tyr Gln Val Leu Phe Thr Gly Val Tyr Glu
     145                    150                    155                    160
     Ser Glu Gln Ala His Arg Gln Ile Pro Ile Lys Thr Ile Lys Gly Val
                      165                    170                    175
     Lys Val Ala Leu Leu Ser Tyr Thr Phe Gly Thr Asn Asp His Gln Pro
                  180                    185                    190
     Thr His Asp Tyr Thr Val Asp Thr Phe Asp Glu Asn Lys Ile Lys Gln
                  195                    200                    205
     Asp Val Lys Lys Ala Lys Gln Gln Ser Asp Val Val Leu Val Ser Ala
         210                    215                    220
     His Trp Gly Asn Glu Gly Lys His Gln Pro Asn Ala Thr Gln Lys Lys
     225                    230                    235                    240
     Tyr Ala Gln Ile Phe Ala Asp Ala Gly Val Asp Val Val Leu Gly Thr
                      245                    250                    255
     His Pro His Val Ile Gln Pro Val Lys Trp Val Asp Gly Arg Glu Gly
                  260                    265                    270
     Asn Arg Thr Leu Val Ala Tyr Ser Leu Gly Asn Phe Leu Asn Gly Gln
                  275                    280                    285
     Ser Thr Gly Asn Glu Ser Asn Asp Leu Leu Gly Arg Ile Asp Phe Lys
         290                    295                    300
     Ile Ser Lys Lys Asp Lys Gln Phe Gln Val Gln Asp Val Lys Trp Arg
     305                    310                    315                    320
     Ser Met Val Asn Tyr Tyr Glu Leu Thr Gln His Gln Asn Gln Phe Leu
                      325                    330                    335
     Lys Ser Asn Phe Lys Val Met Met Leu Asp Asp Tyr Asn Asp Lys Asp
                  340                    345                    350
     Ala Thr His His Gly Arg Asn Gln Met Asp Ser Ser Ser Met Ser Pro
                  355                    360                    365
     Ala His Leu Arg Asp Ile Thr Arg Ser Val Ile Asp Lys Gln Tyr Leu
         370                    375                    380
     Asp Asn Arg Ser Leu
     385


<210> 4639
<211> 178
<212> PRT
<213> S.epidermidis


<400> 4639
Met Leu Glu Thr His Arg Leu Lys Leu Val Lys Pro Asn Leu Ser Tyr
1               5                    10                    15
Thr Asp Glu Leu Tyr Gln Leu His Thr Asn Lys Val Ala Thr Lys Tyr
             20                    25                    30
Thr Pro Lys Gly Ile His Gln Asn Lys Val Ala Thr Gln Asp Phe Ile
             35                    40                    45
Lys Gly Trp Met Arg His Trp Asp Glu Tyr Gln Phe Gly Tyr Phe Ile
         50                    55                    60
Leu Ile Met Arg Asp Asn His Glu Val Val Gly Ile Ala Gly Phe Glu
65                    70                    75                    80
Tyr Arg Thr Ile His Gln Gln Gln Phe Leu Asn Ala Tyr Tyr Arg Ile
                  85                    90                    95
Phe Pro Ser Tyr Thr Gly Val Gly Leu Ala Phe Glu Ser Met Glu Glu
             100                   105                   110
```

```
Ile Ala Arg His Leu Lys Lys His Asp Thr Ile Thr Pro Lys Leu Ile
        115                 120                 125
Arg Thr Asn Gln Tyr Asn Thr Asn Ser Ile Lys Leu Ala Gln Lys Leu
        130                 135                 140
Gly Tyr Asn Tyr Asp Ala Asn Trp Asp Asp Val Ile Asn Lys Gly Asp
145                 150                 155                 160
Arg Cys Phe Leu Thr Tyr Lys Arg Trp Ile Ile Thr Lys Ser Met Met
                165                 170                 175
Asn Ser
```

<210> 4640
<211> 241
<212> PRT
<213> S.epidermidis

<400> 4640
```
Val Asp Arg Thr Ile Asn Asp Arg Ser Gly Tyr Lys Met Asn Tyr Ser
1               5                   10                  15
Pro Lys Gln Gly Val Lys Ser His Gly Leu Pro His Asp Pro Phe Lys
        20                  25                  30
Ser Ser Thr Val Pro Arg Pro Ile Gly Trp Ile Ser Thr Val Ser Lys
        35                  40                  45
Glu Gly Lys Asp Asn Leu Ala Pro Tyr Ser Gln Tyr Gln Asn Leu Thr
        50                  55                  60
Trp Asp Pro Pro Met Val Met Phe Ala Ala Asn Gln Ser Val Leu Gly
65                  70                  75                  80
Asp His Glu Arg Lys Asp Thr Val Lys Asn Ala Glu Glu Thr Gly Trp
                85                  90                  95
Phe Val Trp Asn Met Ala Thr Tyr Asp Leu Arg Glu Ala Val Asn Leu
                100                 105                 110
Ser Ser Lys Ala Leu Pro Pro Glu Asp Asp Glu Phe Asp Phe Ala Gly
        115                 120                 125
Val Thr Lys Glu Ser Cys Ile Glu Ala Pro Gly Ser Arg Val Lys Glu
        130                 135                 140
Ser Pro Val His Phe Glu Cys Glu Tyr Val Gln Thr Val Arg Ile Pro
145                 150                 155                 160
Thr Gly Asp Pro Val Ser Thr Val Asp Val Val Ile Gly Arg Val Ala
                165                 170                 175
Gln Val His Ile Asp Asp Lys Val Ile Met Asp Asn Gly Lys Leu Asp
                180                 185                 190
Ile Lys Ser Ile Arg Pro Ile Ala Arg Leu Gly Tyr Tyr Asp Tyr Thr
        195                 200                 205
Val Val Asp Glu Ile Phe Glu Met Lys Ala Pro Ala Ala Ser Lys Glu
        210                 215                 220
Glu Leu Ala Gly Leu Glu Gly Arg Asn Phe Asp Asn Thr Asn Asn Glu
225                 230                 235                 240
Ser
```

<210> 4641
<211> 60
<212> PRT
<213> S.epidermidis

<400> 4641

Asn Thr Arg Thr His Ile Ile Asn Ala Trp Asp Thr Leu Asn Val Ser
1   5   10   15
Gly Ile Phe Ile Tyr Gly Asn Arg Cys Ile Asn Arg Lys Tyr Asn Glu
                20   25   30
Leu Tyr Gln Ile Phe Lys Leu Ser Tyr Thr Ser Glu Glu His Lys Val
        35   40   45
Leu Phe Asn Leu Cys Ser Thr Ser Phe Ile Tyr Thr
    50   55   60

<210> 4642
<211> 676
<212> PRT
<213> S.epidermidis

<400> 4642
Met Lys Arg Thr Asp Lys Ile Gly Val Tyr Leu Lys Leu Ser Cys Ser
1   5   10   15
Ala Leu Leu Leu Ser Gly Ser Leu Val Gly Tyr Gly Phe Thr Lys Asp
                20   25   30
Ala Phe Ala Asp Ser Glu Ser Thr Ser Ser Asn Val Glu Asn Thr Ser
        35   40   45
Asn Ser Asn Ser Ile Ala Asp Lys Ile Gln Gln Ala Lys Asp Asp Ile
    50   55   60
Lys Asp Leu Lys Glu Leu Ser Asp Ala Asp Ile Lys Ser Phe Glu Glu
65   70   75   80
Arg Leu Asp Lys Val Asp Asn Gln Ser Ser Ile Asp Arg Ile Ile Asn
                85   90   95
Asp Ala Lys Asp Lys Asn Asn His Leu Lys Ser Thr Asp Ser Ser Ala
            100   105   110
Thr Ser Ser Lys Thr Glu Asp Asp Thr Ser Glu Lys Asp Asn Asp
        115   120   125
Asp Met Thr Lys Asp Leu Asp Lys Ile Leu Ser Asp Leu Asp Ser Ile
    130   135   140
Ala Lys Asn Val Asp Asn Arg Gln Gln Gly Glu Asn Ser Ala Ser Lys
145   150   155   160
Pro Ser Asp Ser Thr Thr Asp Glu Lys Asp Asp Ser Asn Asn Lys Val
                165   170   175
His Asp Thr Asn Ala Ser Thr Arg Asn Ala Thr Thr Asp Asp Ser Glu
            180   185   190
Glu Ser Val Ile Asp Lys Leu Asp Lys Ile Gln Gln Asp Phe Lys Ser
        195   200   205
Asp Ser Asn Asn Lys Leu Ser Glu Gln Ser Asp Gln Gln Ala Ser Pro
    210   215   220
Ser Asn Lys Asn Glu Asn Asn Lys Glu Glu Ser Ser Thr Thr Thr Asn
225   230   235   240
Gln Ser Asp Ser Asp Ser Lys Asp Asp Lys Ser Asn Asp Gly Arg Arg
                245   250   255
Ser Thr Leu Glu Arg Ile Ala Ser Asp Thr Asp Gln Ile Arg Asp Ser
            260   265   270
Lys Asp Gln His Val Thr Asp Glu Lys Gln Asp Ile Gln Ala Ile Thr
        275   280   285
Arg Ser Leu Gln Gly Ser Asp Lys Ile Glu Lys Ala Leu Ala Lys Val
    290   295   ·300
Gln Ser Asp Asn Gln Pro Leu Asp Ser Asn Tyr Ile Asn Asn Lys Leu
305   310   315   320
Met Asn Leu Arg Ser Leu Asp Thr Lys Val Glu Asp Asn Asn Thr Leu

```
                     325                    330                    335
     Ser Asp Asp Lys Lys Gln Ala Leu Lys Gln Glu Ile Asp Lys Thr Lys
                 340                    345                    350
     Gln Ser Ile Asp Arg Gln Arg Asn Ile Ile Ile Asp Gln Leu Asn Gly
                 355                    360                    365
     Ala Ser Asn Lys Lys Gln Ala Thr Glu Asp Ile Leu Asn Ser Val Phe
                 370                    375                    380
     Ser Lys Asn Glu Val Glu Asp Ile Met Lys Arg Ile Lys Thr Asn Gly
     385                    390                    395                    400
     Arg Ser Asn Glu Asp Ile Ala Asn Gln Ile Ala Lys Gln Ile Asp Gly
                 405                    410                    415
     Leu Ala Leu Thr Ser Ser Asp Asp Ile Leu Lys Ser Met Leu Asp Gln
                 420                    425                    430
     Ser Lys Asp Lys Glu Ser Leu Ile Lys Gln Leu Leu Thr Thr Arg Leu
                 435                    440                    445
     Gly Asn Asp Glu Ala Asp Arg Ile Ala Lys Lys Leu Leu Ser Gln Asn
                 450                    455                    460
     Leu Ser Asn Ser Gln Ile Val Glu Gln Leu Lys Arg His Phe Asn Ser
     465                    470                    475                    480
     Gln Gly Thr Ala Thr Ala Asp Asp Ile Leu Asn Gly Val Ile Asn Asp
                 485                    490                    495
     Ala Lys Asp Lys Arg Gln Ala Ile Glu Thr Ile Leu Gln Thr Arg Ile
                 500                    505                    510
     Asn Lys Asp Lys Ala Lys Ile Ile Ala Asp Val Ile Ala Arg Val Gln
                 515                    520                    525
     Lys Asp Lys Ser Asp Ile Met Asp Leu Ile His Ser Ala Ile Glu Gly
                 530                    535                    540
     Lys Ala Asn Asp Leu Leu Asp Ile Glu Lys Arg Ala Lys Gln Ala Lys
     545                    550                    555                    560
     Lys Asp Leu Glu Tyr Ile Leu Asp Pro Ile Lys Asn Arg Pro Ser Leu
                 565                    570                    575
     Leu Asp Arg Ile Asn Lys Gly Val Gly Asp Ser Asn Ser Ile Phe Asp
                 580                    585                    590
     Arg Pro Ser Leu Leu Asp Lys Leu His Ser Arg Gly Ser Ile Leu Asp
                 595                    600                    605
     Lys Leu Asp His Ser Ala Pro Glu Asn Gly Leu Ser Leu Asp Asn Lys
                 610                    615                    620
     Gly Gly Leu Leu Ser Asp Leu Phe Asp Asp Asp Gly Asn Ile Ser Leu
     625                    630                    635                    640
     Pro Ala Thr Gly Glu Val Ile Lys Gln His Trp Ile Pro Val Ala Val
                 645                    650                    655
     Val Leu Met Ser Leu Gly Gly Ala Leu Ile Phe Met Ala Arg Arg Lys
                 660                    665                    670
     Lys His Gln Asn
                 675
```

<210> 4643
<211> 201
<212> PRT
<213> S.epidermidis

<400> 4643

```
     Asn Gly Gly Thr Arg Met Ile Gln Arg Lys Gly Glu Leu Ile Leu Ser
     1                    5                      10                     15
     Trp Ile Gly Asn Gly Leu His Leu Leu Tyr Val Phe Leu Val Gly Ile
                 20                     25                     30
```

Phe Phe Ile Met Thr Gln Thr Ser Glu Phe Lys Asn Gly Met Ile Gln
     35   40   45

Gly Phe Ile Glu Glu Asn Pro Gly Glu Tyr Asp Leu Ala Tyr Gln Thr
     50   55   60

Tyr Asn Leu Met Leu Gly Leu Gly Val Val Phe Ile Ile Ile Leu Leu
65   70   75   80

Ile Leu Leu Ile Val Ser Ile Val Ala Ala Ile Leu Ile Gly Lys Asn
              85   90   95

Ala Lys Val Ser Gly Ile Leu Leu Val Ile Thr Gly Ile Ile Gly Leu
         100   105   110

Phe Leu Ser Phe Ile Ala Gly Ala Leu Trp Leu Ile Ala Gly Ile Met
         115   120   125

Leu Leu Val Arg Lys Pro Gln Thr Gln Asn Asp Gln Ile Asn Ser Gln
         130   135   140

Tyr Ser Asn Asp Ile His Ser His Val Val Pro Glu Glu Lys Lys Arg
145   150   155   160

Glu Gln Gln Gln Tyr Asn Met Asn Glu Pro His Ile Gly Gln Ser Ser
              165   170   175

Thr Ser His His Asp His Ala Leu Asn Asp Gln Asn Lys Arg Glu Asn
         180   185   190

His Asn His Asp Asn Gln Pro Tyr Lys
         195   200

<210> 4644
<211> 400
<212> PRT
<213> S.epidermidis

<400> 4644
Lys Gly Gly Thr Thr Thr Met Leu Thr Val Gly Ile Ile Pro Ser Pro
1   5   10   15

Gly Ile Ala His Gln His Val Lys Lys Ile Ile Pro Asn Val Lys Gln
         20   25   30

Leu Leu Ser Lys Arg Thr Lys His Ser Gln Trp Asn Phe Asp Ile Lys
         35   40   45

Val Asp Leu Met Ile Gly Ser Ala Glu Asp Val His Glu Ser Val Glu
     50   55   60

Lys Ala Ala Gln Ile Lys Glu Glu His Gln Trp Asp Tyr Val Val Cys
65   70   75   80

Leu Thr Asp Leu Pro Ser Ile Ser Asp Asn Lys Val Val Val Ser Asp
              85   90   95

Phe Asn Ser Asp Lys His Val Ala Met Leu Ser Leu Pro Ser Leu Gly
         100   105   110

Phe Ile Asp Leu Lys Arg Lys Leu Val Lys Thr Met Thr Ser Leu Ile
         115   120   125

Glu Gln Leu Tyr Tyr Asn Gln Pro Lys Asp Lys Asn Ala Pro His Pro
         130   135   140

Phe Val Arg Val Lys Ala Val Glu Pro Asp Glu Asp Ala Thr Ser Lys
145   150   155   160

Gln Arg Tyr Ile Asn Ile Leu Phe Ile Ile Ser Trp Ile Gln Leu Ile
              165   170   175

Gly Gly Leu Thr Arg Ala Asn Gln Pro Trp Lys Asn Ile Phe Asn Phe
         180   185   190

Lys Lys Ile Ile Ser Val Ala Phe Ala Thr Gly Thr Tyr Val Ser Ile
         195   200   205

Phe Ser Met Pro Trp Glu Leu Ser Val Ile Tyr Ser Pro Leu Arg Leu

```
           210                      215                      220
Ile Ile Leu Met Val Ile Ala Ile Leu Gly Met Ala Gly Trp Leu Phe
225                      230                      235                      240
Tyr Ala His Gln Leu Ile Glu Lys Lys Thr Ala Lys Ser Gln Arg Val
                   245                      250                      255
Tyr Arg Tyr Ile Tyr Asn Ser Thr Thr Leu Val Thr Leu Ser Leu Ile
                   260                      265                      270
Thr Leu Ile Asn Tyr Val Ile Leu Tyr Leu Leu Leu Ile Ile Ser Ile
                   275                      280                      285
Thr Leu Phe Val Pro Val Glu Leu Phe Asn Ser Trp Thr Ser Ala Gln
         290                      295                      300
Ser Gln Phe Thr Phe Ser Asn Tyr Met Arg Leu Ile Trp Phe Val Ser
305                      310                      315                      320
Ser Leu Gly Leu Leu Ala Gly Ala Met Gly Ser Thr Val Glu Asn Glu
                   325                      330                      335
Glu Lys Ile Arg Arg Ile Thr Tyr Ser Tyr Arg Gln Tyr His Arg Tyr
                   340                      345                      350
Lys Glu Ala Glu Gln Glu Gln Lys Glu Gln Glu Thr Ser Arg Asp Val
         355                      360                      365
Ser Gln Gln Asn Val Glu Gln Gln Thr Ser Ser Lys Asp Glu Asn Asn
         370                      375                      380
Glu Gln Tyr Glu Gly Lys Lys Gln Gly His Arg Glu Glu Asp Asp Ala
385                      390                      395                      400
```

<210> 4645
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4645
```
Asn Phe Leu Thr Ile Ser Tyr Gly Leu Ser Ala Thr Cys Asn Pro His
1                   5                    10                       15
Ser Val Leu Leu Glu Leu Asp Gln Arg Pro Ala Arg Glu Ser Leu Glu
                   20                       25                       30
Ser Asn Thr Gly Asp Val His Gly Met Gln Pro Ile Leu Gly
         35                       40                       45
```

<210> 4646
<211> 330
<212> PRT
<213> S.epidermidis

<400> 4646
```
Leu Lys Leu Thr Lys Glu Glu His Arg Phe Met Asp Tyr Arg Val Leu
1                   5                    10                       15
Leu Tyr Tyr Lys Tyr Val Thr Ile Asp Asp Pro Glu Thr Phe Ala Ala
                   20                       25                       30
Glu His Leu Lys Phe Cys Lys Glu His His Leu Lys Gly Arg Ile Leu
         35                       40                       45
Val Ser Thr Glu Gly Ile Asn Gly Thr Leu Ser Gly Thr Lys Glu Asp
         50                       55                       60
Thr Asp Lys Tyr Ile Glu His Met His Ala Asp Ser Arg Phe Ala Asp
65                       70                       75                       80
Leu Thr Phe Lys Ile Asp Glu Ala Glu Ser His Ala Phe Lys Lys Met
                   85                       90                       95
His Val Arg Pro Arg Arg Glu Ile Val Ala Leu Asp Leu Glu Glu Asp
```

```
                    100                   105                   110
Ile Asn Pro Arg Glu Ile Thr Gly Lys Tyr Tyr Ser Pro Lys Glu Phe
            115                   120                   125
Lys Ala Ala Leu Glu Asp Glu Asn Thr Val Ile Leu Asp Ala Arg Asn
        130                   135                   140
Asp Tyr Glu Tyr Asp Leu Gly His Phe Arg Gly Ala Ile Arg Pro Asp
145                   150                   155                   160
Ile Thr Arg Phe Arg Asp Leu Pro Glu Trp Val Arg Asn Asn Lys Glu
                165                   170                   175
Gln Leu Asp Gly Lys Asn Ile Val Thr Tyr Cys Thr Gly Gly Ile Arg
                180                   185                   190
Cys Glu Lys Phe Ser Gly Trp Leu Val Lys Glu Gly Phe Glu Asn Val
            195                   200                   205
Gly Gln Leu His Gly Gly Ile Ala Thr Tyr Gly Lys Asp Pro Glu Thr
        210                   215                   220
Lys Gly Leu Tyr Trp Asp Gly Lys Met Tyr Val Phe Asp Glu Arg Phe
225                   230                   235                   240
Ser Val Asp Val Asn Gln Ile Asp Lys Thr Val Ile Gly Lys Glu His
                245                   250                   255
Phe Asp Gly Thr Pro Cys Glu Arg Tyr Ile Asn Cys Ala Asn Pro Glu
                260                   265                   270
Cys Asn Lys Gln Ile Leu Val Ser Glu Glu Asn Glu Glu Lys Tyr Leu
            275                   280                   285
Gly Ala Cys Ser Tyr Asp Cys Ala Lys His Glu Arg Asn Arg Tyr Val
        290                   295                   300
Ala Arg His His Ile Ser Asn Glu Glu Trp Gln Arg Arg Leu Asn Asn
305                   310                   315                   320
Phe Lys Asp Val Pro Glu His Thr His Ala
                325                   330


<210> 4647
<211> 321
<212> PRT
<213> S.epidermidis


<400> 4647
Glu Glu Leu Thr Met Lys Met Glu Lys Glu Gln Ala His Trp Ile Tyr
1               5                   10                  15
Lys Thr Met Asn Glu Ile Arg Phe Phe Glu Glu Lys Val His Lys Ile
            20                  25                  30
Phe Ser Asp Gly Arg Ile Pro Gly Phe Val His Leu Tyr Val Gly Glu
        35                  40                  45
Glu Ala Val Ala Thr Gly Val Met Ser Gln Leu Asn Asp Asp Asp Tyr
        50                  55                  60
Ile Thr Ser Thr His Arg Gly His Gly His Ala Ile Ala Lys Gly Cys
65                  70                  75                  80
Asp Leu Asn Gly Met Met Ala Glu Ile Met Gly Lys Arg Asp Gly Leu
            85                  90                  95
Gly His Gly Lys Gly Gly Ser Met His Val Ala Glu Ile Asp Lys Gly
            100                 105                 110
Met Leu Gly Ala Asn Gly Ile Val Ser Gly Gly Phe Gly Leu Ala Ile
        115                 120                 125
Gly Ala Ser Ile Ser Ile Ile Asn Gln Gly Lys Asp Asn Val Ala Val
        130                 135                 140
Cys Phe Phe Gly Asp Gly Ala Ala Asn Glu Cys Asn Phe His Glu Gly
145                 150                 155                 160
```

Leu Asn Phe Ala Ser Ile Leu Asp Leu Pro Val Leu Phe Ile Cys Glu
165   170   175
Asn Asn Gln Phe Ala Glu Gly Thr Thr His Asp Tyr Ala Ser Ala Ser
180   185   190
Glu Thr Ile Ala Glu Arg Ala Ala Ala Tyr Asn Met Pro Gly Val Arg
195   200   205
Val Asp Gly Met Asp Val Met Glu Val Tyr Lys Ala Thr Gln Glu Ala
210   215   220
Val Glu Arg Ala Lys Lys Gly Glu Gly Pro Thr Leu Ile Glu Cys Asp
225   230   235   240
Thr Tyr Arg Lys Tyr Gly His Phe Glu Gly Asp Glu Gln Lys Val Lys
245   250   255
Ser Pro Asp Asp Arg Asn Ala Asp Lys Asn Ala Thr Val Glu Phe Arg
260   265   270
Lys Arg Ala Ile Glu Glu Asn Trp Leu Thr Glu Lys Glu Ala Asp Glu
275   280   285
Ile Glu Lys Ala Ala Glu Gln Ala Val Glu Asp Ala Val Lys Phe Ala
290   295   300
Glu Glu Ser Glu Leu Pro Asp Glu Asp Ser Leu Tyr Lys Asp Val Phe
305   310   315   320
Ala

<210> 4648
<211> 288
<212> PRT
<213> S.epidermidis

<400> 4648
Ser Asn Met Thr Lys Val Ile Thr Thr Ile Asn Glu Met Gln Ser Ile
1   5   10   15
Val Lys Gln His Gln Arg Glu Gly Lys Thr Ile Gly Phe Val Pro Thr
20   25   30
Met Gly Ala Leu His Asp Gly His Leu Thr Met Met Lys Gln Ser Val
35   40   45
Ser Glu Asn Asp Leu Thr Val Ile Ser Ile Phe Val Asn Pro Leu Gln
50   55   60
Phe Gly Pro Asn Glu Asp Phe Asp Ala Tyr Pro Arg Gln Leu Asp Asp
65   70   75   80
Asp Val Ala Ala Val Lys Lys Leu Gln Val Asp Tyr Val Phe His Pro
85   90   95
Ser Val Asp Glu Met Tyr Pro Glu Glu Leu Gly Ile His Leu Lys Val
100   105   110
Gly His Leu Ala Gln Val Leu Glu Gly Ala Gln Arg Pro Gly His Phe
115   120   125
Glu Gly Val Val Thr Val Val Asn Lys Leu Phe Asn Ile Val Gln Pro
130   135   140
Asp Tyr Ala Tyr Phe Gly Lys Lys Asp Ala Gln Gln Leu Ala Ile Val
145   150   155   160
Glu Lys Met Val Lys Asp Phe Asn Leu Pro Val His Val Ile Gly Ile
165   170   175
Asp Ile Val Arg Glu Lys Asp Gly Leu Ala Lys Ser Ser Arg Asn Ile
180   185   190
Tyr Leu Thr Ser Glu Glu Arg Lys Glu Ala Lys His Leu Tyr Gln Ser
195   200   205
Leu Arg Leu Ala Lys Asn Leu Tyr Glu Ala Gly Glu Arg Asp Ser Asn

```
              ·210                      215                       220
Glu Ile Ile Gly Gln Ile Ala Ala Tyr Leu Asn Lys Asn Ile Ser Gly
225                      230                      235                      240
His Ile Asp Asp Leu Gly Ile Tyr Ser Tyr Pro Asn Leu Ile Gln Gln
                        245                      250                      255
Ser Lys Ile His Gly Arg Ile Phe Ile Ser Leu Ala Val Lys Phe Ser
                        260                      265                      270
Lys Ala Arg Leu Ile Asp Asn Ile Ile Ile Gly Asp Asp Tyr Ile Asp
                        275                      280                      285
```

<210> 4649
<211> 656
<212> PRT
<213> S.epidermidis

<400> 4649
```
Leu Cys Met Thr His Ile Thr Glu Ser Glu Met Lys Gln Lys Tyr Leu
1                       5                        10                       15
Asp Leu Leu Ser Gln Lys Phe Asp Ser Ala Glu Lys Leu Ala Thr Glu
                        20                       25                       30
Ile Ile Asn Leu Glu Ser Ile Leu Glu Leu Pro Lys Gly Thr Glu His
                        35                       40                       45
Phe Val Ser Asp Leu His Gly Glu Tyr Glu Ser Phe Gln His Val Leu
                        50                       55                       60
Arg Asn Gly Ser Gly Asn Val Arg Ala Lys Ile Asn Asp Ile Phe Lys
65                       70                       75                       80
Asp Lys Leu Ser Gln Gln Glu Ile Asn Asp Leu Ala Ala Leu Val Tyr
                        85                       90                       95
Tyr Pro Glu Glu Lys Leu Lys Leu Val Lys Asn Asn Phe Asp Ser Ile
                        100                      105                      110
Gly Thr Leu Asn Ile Trp Tyr Ile Thr Thr Ile Gln Arg Leu Ile Asp
                        115                      120                      125
Leu Ile Thr Tyr Cys Ser Ser Lys Tyr Thr Arg Ser Lys Leu Arg Lys
                        130                      135                      140
Ala Leu Pro Glu Gln Tyr Val Tyr Ile Ile Glu Glu Leu Leu Tyr Lys
145                      150                      155                      160
Ser Asn Glu Phe His Asn Lys Lys Pro Tyr Tyr Glu Thr Leu Val Asn
                        165                      170                      175
Gln Ile Ile Glu Leu Glu Gln Ser Asp Asp Leu Ile Ile Gly Leu Ser
                        180                      185                      190
Tyr Thr Val Gln Arg Leu Val Val Asp His Leu His Val Val Gly Asp
                        195                      200                      205
Ile Tyr Asp Arg Gly Pro Lys Pro Asp Lys Ile Met Asp Thr Leu Ile
                        210                      215                      220
Asn Tyr His Ser Val Asp Ile Gln Trp Gly Asn His Asp Val Leu Trp
225                      230                      235                      240
Ile Gly Ala Tyr Ala Gly Ser Lys Val Cys Leu Ala Asn Leu Leu Arg
                        245                      250                      255
Ile Cys Ala Arg Tyr Asp Asn Leu Asp Ile Ile Glu Asp Ala Tyr Gly
                        260                      265                      270
Ile Asn Leu Arg Pro Leu Leu Thr Leu Ala Glu Lys Tyr Tyr Asp Ala
                        275                      280                      285
Glu Asn Pro Ala Phe Lys Pro Lys Lys Arg Pro Asp Lys Asp Val Ser
                        290                      295                      300
Leu Thr Lys Arg Glu Glu Ser Gln Ile Thr Lys Ile His Gln Ala Ile
305                      310                      315                      320
```

```
Ala Met Ile Gln Phe Lys Leu Glu Met Pro Ile Ile Lys Arg Arg Pro
                325                 330                 335
Ser Phe Glu Met Glu Glu Arg Leu Val Leu Glu Lys Ile Asp Tyr Asp
                340                 345                 350
Asn Asn Glu Ile Thr Ile Tyr Asn Lys Thr Tyr Pro Leu Lys Asp Thr
                355                 360                 365
Cys Phe Gln Thr Val Asn Pro Asn Asn Pro Ala Glu Leu Leu Ala Glu
            370                 375                 380
Glu Lys Glu Val Met Asp Lys Leu Leu Leu Ser Phe Gln Gln Ser Glu
385                 390                 395                 400
Lys Leu Arg Arg His Met Ser Phe Leu Met Arg Lys Gly Lys Leu Tyr
                405                 410                 415
Leu Pro Tyr Asn Gly Asn Leu Leu Ile His Gly Cys Ile Pro Val Asp
                420                 425                 430
Glu Asn Gly Glu Met Glu Ser Phe Glu Ile Glu Gly Glu Arg Leu Ser
            435                 440                 445
Gly Arg Glu Leu Leu Asp Val Phe Glu Tyr His Val Arg Arg Ala Phe
    450                 455                 460
Asp His Lys Glu Ser Thr Glu Asp Ile Ser Thr Asp Leu Val Trp Tyr
465                 470                 475                 480
Leu Trp Thr Gly Lys Tyr Ser Ser Leu Phe Gly Lys Arg Ala Met Thr
                485                 490                 495
Thr Phe Glu Arg Tyr Phe Ile Glu Asp Lys Ala Ser His Lys Glu Glu
                500                 505                 510
Lys Asn Pro Tyr Tyr Tyr Leu Arg Glu Asp Val Asp Met Ile Arg Lys
            515                 520                 525
Met Leu Lys Asp Phe Gly Leu Asn Pro Asp Glu Gly Arg Ile Ile Asn
    530                 535                 540
Gly His Thr Pro Val Lys Glu Ile Asp Gly Glu Asp Pro Ile Lys Ala
545                 550                 555                 560
Asn Gly Lys Met Leu Val Ile Asp Gly Gly Phe Ser Lys Ala Tyr Gln
                565                 570                 575
Ser Thr Thr Gly Ile Ala Gly Tyr Thr Leu Leu Tyr Asn Ser Phe Gly
            580                 585                 590
Met Gln Leu Val Ala His Lys Glu Phe Asn Arg Lys Glu Lys Val Leu
    595                 600             .     605
Ser Met Gly Ala Asp Glu Leu Ser Val Lys Arg Val Val Asp Glu Glu
    610                 615                 620
Leu Gln Arg Lys Lys Ile Arg Asp Thr Asn Ile Gly Lys Gln Leu Gln
625                 630                 635                 640
Asp Gln Ile Asp Ile Leu Lys Ile Leu Met His Asp Arg Tyr Leu Thr
                645                 650                 655
```

<210> 4650
<211> 332
<212> PRT
<213> S.epidermidis

<400> 4650

```
Phe Leu Met Thr Lys Ile Met Phe Phe Gly Thr Arg Ala Tyr Glu Lys
1               5                   10                  15
Asp Met Ala Leu Arg Trp Gly Lys Lys Asn Asn Ile Asp Val Thr Thr
            20                  25                  30
Ser Thr Glu Leu Leu Ser Val Asp Thr Val Asp Gln Leu Lys Asp Tyr
        35                  40                  45
Asp Gly Val Thr Thr Met Gln Phe Gly Lys Leu Glu Pro Glu Val Tyr
```

```
          50                        55                        60
Pro Lys Leu Glu Ser Tyr Gly Ile Lys Gln Ile Ala Gln Arg Thr Ala
65                        70                        75                        80
Gly Phe Asp Met Tyr Asp Leu Glu Leu Ala Lys Lys His Glu Ile Ile
                    85                        90                        95
Ile Ser Asn Ile Pro Ser Tyr Ser Pro Glu Thr Ile Ala Glu Tyr Ser
                    100                       105                       110
Val Ser Ile Ala Leu Gln Leu Val Arg Lys Phe Pro Thr Ile Glu Lys
                    115                       120                       125
Arg Val Gln Ala His Asn Phe Thr Trp Ala Ser Pro Ile Met Ser Arg
                    130                       135                       140
Pro Val Lys Asn Met Thr Val Ala Ile Ile Gly Thr Gly Arg Ile Gly
145                       150                       155                       160
Ala Ala Thr Gly Lys Ile Tyr Ala Gly Phe Gly Ala Arg Val Val Gly
                    165                       170                       175
Tyr Asp Ala Tyr Pro Asn His Ser Leu Ser Phe Leu Glu Tyr Lys Glu
                    180                       185                       190
Thr Val Glu Asp Ala Ile Lys Asp Ala Asp Ile Ile Ser Leu His Val
                    195                       200                       205
Pro Ala Asn Lys Asp Ser Phe His Leu Phe Asp Asn Asn Met Phe Lys
                    210                       215                       220
Asn Val Lys Lys Gly Ala Val Leu Val Asn Ala Ala Arg Gly Ala Val
225                       230                       235                       240
Ile Asn Thr Pro Asp Leu Ile Glu Ala Val Asn Asn Gly Thr Leu Ser
                    245                       250                       255
Gly Ala Ala Ile Asp Thr Tyr Glu Asn Glu Ala Asn Tyr Phe Thr Phe
                    260                       265                       270
Asp Cys Ser Asn Gln Thr Ile Asp Asp Pro Ile Leu Leu Asp Leu Ile
                    275                       280                       285
Arg Asn Glu Asn Ile Leu Val Thr Pro His Ile Ala Phe Phe Ser Asp
                    290                       295                       300
Glu Ala Val Gln Asn Leu Val Glu Gly Gly Leu Asn Ala Ala Leu Ser
305                       310                       315                       320
Val Ile Asn Thr Gly Thr Cys Asp Thr Arg Leu Asn
                    325                       330
```

<210> 4651
<211> 70
<212> PRT
<213> S.epidermidis

<400> 4651
```
Ala Ser Met Thr Tyr Ile Ser Leu Ser Gln Lys Ile Arg Asn Ala Asn
1               5                       10                      15
Ile Leu Asn Tyr Gln Lys Ile Phe Thr Asn Leu Lys Ile Ile Ser Ile
                    20                      25                      30
Leu Ile Thr Ile Leu Leu Ile Leu Ile Tyr Phe Lys Thr Ile Ala Val
                    35                      40                      45
Asp Ser Phe Ile Ala Ser Tyr Val Asp Ser Tyr Ile Lys Lys Ser His
            50                      55                      60
Tyr Trp Glu Gly Thr Gln
65                      70
```

<210> 4652
<211> 295
<212> PRT

<213> S.epidermidis

<400> 4652
Val Lys Val Thr Gln Asn Glu Asn Leu Lys Leu Ala Gln Arg Gly Ala
1   5   10   15
Phe Leu Ser Leu Val Ile Tyr Ile Ile Leu Ser Ile Ala Lys Tyr Met
            20   25   30
Thr Gly Tyr Val Tyr Asp Ser Ala Ala Val Arg Ala Asp Ala Leu Asn
        35   40   45
Asn Met Thr Asp Ile Leu Val Ser Val Ala Val Ile Val Gly Leu Lys
        50   55   60
Ile Ser Ile Lys Pro Ala Asp Gln Asn His Pro Tyr Gly His Leu Lys
65   70   75   80
Ser Glu Asn Ile Ser Thr Leu Leu Val Ser Phe Ile Ile Met Phe Val
                85   90   95
Gly Ile Gln Val Ile Ile Glu Asn Phe Pro Arg Leu Phe Thr His Asp
            100   105   110
Ser His Ile Pro Asn Phe Ile Thr Ile Ile Ile Ser Met Ile Ser Gly
        115   120   125
Leu Val Met Leu Cys Val Phe Ala Ile Asn Tyr Arg Leu Ser Lys Arg
        130   135   140
Thr Lys Ser Ser Ser Leu Lys Ser Ala Ala Lys Asp Asn Leu Ser Asp
145   150   155   160
Ser Leu Val Ser Ile Gly Thr Ala Ile Gly Leu Met Phe Thr Gln Ile
                165   170   175
Gly Phe Pro Ile Ile Asp Ile Ile Leu Ala Asn Ile Leu Gly Leu Leu
            180   185   190
Ile Val Tyr Thr Gly Phe Gly Ile Phe Lys Glu Ser Ile Phe Thr Leu
        195   200   205
Ser Asp Gly Phe Asn Glu Gln Asp Leu Glu Glu Tyr Arg Leu Asp Ile
        210   215   220
Leu Glu Val Glu Asp Val Ile Asp Val Asn Asn Ile Lys Gly Arg Tyr
225   230   235   240
His Gly Ser Ser Ile Phe Ile Asp Val Thr Ile Val Val Asp Pro Tyr
                245   250   255
Leu Ser Leu Tyr Glu Ala His Gln Ile Cys Asp Lys Val Glu Ile His
        260   265   270
Leu His Asn Lys Gly Ile Ser Ser Val Tyr Val His Pro Glu Pro Tyr
        275   280   285
Thr Thr Lys Asp Glu Val Lys
    290   295

<210> 4653
<211> 353
<212> PRT
<213> S.epidermidis

<400> 4653
Leu Met Ser Thr Ile Lys Asn Ile Asp Gly Pro Lys Asp Phe Val Phe
1   5   10   15
Arg Val Leu Ser Gly Val Ala Ile Gly Ile Val Ala Gly Leu Val Pro
            20   25   30
Asn Ala Ile Leu Gly Glu Ile Phe Lys Tyr Phe Met Gln Tyr His Pro
        35   40   45
Ile Phe Lys Thr Leu Leu Gly Val Val Gln Ala Ile Gln Phe Thr Val
    50   55   60

Pro Ala Leu Ile Gly Ala Leu Ile Ala Met Lys Phe Asn Met Thr Pro
65   70   75   80
Leu Ala Ile Ala Val Val Ala Ser Ala Ser Tyr Val Gly Ser Gly Ala
                85   90   95
Ala Gln Phe Lys Gln Gly Thr Trp Val Ile Ala Gly Ile Gly Asp Leu
            100   105   110
Ile Asn Thr Met Leu Thr Ala Ser Ile Ala Val Leu Leu Ile Leu Leu
            115   120   125
Ile Lys Lys Arg Val Gly Ser Met Ala Leu Ile Val Phe Pro Thr Val
        130   135   140
Val Gly Gly Leu Ala Ala Thr Ile Gly Val Phe Thr Leu Pro Tyr Val
145   150   155   160
Arg Leu Ile Thr Thr Gly Ile Gly Asn Met Val Asn Ser Phe Thr Glu
                165   170   175
Leu Gln Pro Val Phe Met Ser Met Leu Ile Ser Met Val Phe Ser Phe
            180   185   190
Ile Ile Ile Ser Pro Leu Ser Thr Val Ala Ile Ala Ile Ala Ile Gly
            195   200   205
Leu Ser Gly Ile Ala Ala Gly Ser Ala Ser Ile Gly Ile Ala Ala Thr
        210   215   220
Glu Ala Val Leu Leu Ile Gly Thr Ser Lys Val Asn His Val Gly Ile
225   230   235   240
Pro Leu Ser Ile Phe Phe Gly Gly Val Lys Met Met Met Pro Asn Met
                245   250   255
Val Lys Tyr Pro Val Ile Met Ile Pro Ile Phe Leu Thr Ala Ala Ile
            260   265   270
Ser Gly Ile Ala Ser Gly Ile Ile Gly Ile Ser Gly Thr Lys Glu Ser
            275   280   285
Ala Gly Phe Gly Phe Ile Gly Met Val Gly Pro Ile Asn Ala Phe Lys
        290   295   300
Phe Met His Val Asp Ser Ala Trp Leu Ser Leu Leu Leu Ile Val Ile
305   310   315   320
Ala Phe Phe Val Val Pro Phe Leu Val Ala Trp Ile Leu Asp Leu Ile
                325   330   335
Leu Arg Arg Leu Ile His Leu Tyr Glu Asn Asp Ile Phe Lys Phe Met
            340   345   350
Gly

<210> 4654
<211> 160
<212> PRT
<213> S.epidermidis

<400> 4654
Glu Lys Ala Thr Thr Met Lys Lys Val Ile Ser Leu Leu Val Val Leu
1   5   10   15
Val Ile Ser Ala Val Ser Leu Ser Ala Cys Gly Lys Glu Arg Thr Lys
            20   25   30
Thr Tyr Glu Gly Glu Val Asn Gly Lys Gln Val Ile Thr Ser Leu Thr
        35   40   45
Tyr Lys Asp Asp Glu Val Leu Lys Gln Ser Thr Ile Ala Thr Ile Lys
    50   55   60
Tyr Asp Asp Leu Gly Ile Asp Lys Asp Glu Ala Lys Gln Met Phe Lys
65   70   75   80
Asn Asp Glu Gln Ala Phe Lys Gly Ile Asp Gly Val Thr Tyr Lys Ala

```
                    85                      90                      95
Asp Phe Lys Asp Arg Lys Ala Ile Glu His Ile Asp Ile Asp Tyr Lys
            100                     105                     110
Asp Ala Asp Ile Asp Gln Leu Lys Lys Asn Leu Gly Phe Ile Ser Ser
        115                     120                     125
Asp Ala Lys Lys Gly Asp His Val Ser Val Asp Arg Val Val Lys Gln
    130                     135                     140
Leu Lys Arg Asn Gly Leu Lys Asp Lys Ser Lys Met Asn Glu Asp Asn
145                     150                     155                     160
```

<210> 4655
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4655
```
Lys Ser Glu Thr Asp Ser Phe Gln Ile Arg Arg Leu Ala Pro Leu Gln
1               5                   10                      15
Leu Thr Met Ile Arg Asn Ser Gln Gln Gln Ala Phe Phe Asn Ser Phe
            20                  25                      30
Ile Tyr Asn Lys Ser Leu Lys His
        35                  40
```

<210> 4656
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4656
```
Glu Ser Glu Thr Thr Ile Arg Gly Ile Ile Asn Lys Lys Pro Val Asn
1               5                   10                      15
Glu Phe Ile Lys Asn Pro Phe Thr Gly Tyr Phe Ala Arg Asn Tyr Val
            20                  25                      30
Pro Ala Ser Pro Phe Asn Phe Asn Ile Cys Lys Ile Asn Ile
        35                  40                  45
```

<210> 4657
<211> 361
<212> PRT
<213> S.epidermidis

<400> 4657
```
Arg Asn Gly Thr Asp Ser Met Lys Lys Asn Lys Leu Glu Leu Val Tyr
1               5                   10                      15
Leu Arg Ala Phe Ile Cys Val Ile Ile Ile Val Thr His Leu Leu Thr
            20                  25                      30
Gln Ile Thr Leu Glu Asn Glu Gln Met Ser Asp Ser Ser Leu Ile Leu
        35                  40                      45
Gln Tyr Tyr Ile Arg Asn Ile Phe Ile Phe Gly Thr Pro Ser Phe Ile
    50                  55                      60
Ile Leu Ser Gln Leu Leu Thr Thr Leu Asn Tyr Glu Ser Val Thr Ile
65                  70                  75                      80
Asn Tyr Leu Phe Ser Arg Phe Lys Tyr Ile Phe Ile Pro Tyr Leu Leu
                85                  90                      95
Ile Gly Leu Phe Tyr Ser Tyr Ser Glu Ser Leu Ile Thr Ala Ser Ser
            100                     105                     110
```

```
Phe Lys Lys Gln Phe Ile Glu Asn Val Val Leu Gly Gln Trp Tyr Gly
        115                 120                 125
Tyr Phe Ile Ile Ile Ile Met Gln Phe Phe Val Leu Ser Tyr Ile Ile
        130                 135                 140
Tyr Lys Ile Asn Phe Arg Leu Phe Asn Ser Lys Ile Leu Leu Leu Leu
145                 150                 155                 160
Ala Phe Ile Val Gln Gln Ser Tyr Leu His Tyr Phe Leu Asn Asn Asp
                165                 170                 175
Thr Phe His Gln Phe Met Thr His Tyr Tyr Pro Leu Ser Glu Asn Thr
        180                 185                 190
Met Ile Leu Gly Trp Ile Phe Tyr Phe Phe Leu Gly Gly Tyr Ile Gly
        195                 200                 205
Tyr Asn Tyr Glu Lys Ile Leu Ser Phe Leu Glu Lys Tyr Leu Ile Ile
        210                 215                 220
Val Ile Met Leu Thr Leu Gly Ala Tyr Val Leu Phe Ile Ala Val Ser
225                 230                 235                 240
Gly Ser Asp Tyr Trp Asn Val Thr Ser Phe Thr Tyr Thr Leu Thr Leu
                245                 250                 255
Tyr Asn Ser Val Met Phe Phe Leu Leu Leu Gly Val Cys Met His Phe
                260                 265                 270
Lys Thr Met Leu Leu Asn Thr Ile Lys Ala Ile Ser Ala Phe Ser Phe
        275                 280                 285
Phe Ile Tyr Leu Leu His Pro Ile Ile Leu Asp Ser Leu Phe Ala Tyr
        290                 295                 300
Thr Asn Ile Phe Glu Asp Asn Thr Ile Val Phe Leu Ala Ile Ser Leu
305                 310                 315                 320
Leu Met Ile Leu Gly Ile Cys Ile Gly Val Gly Met Met Leu Arg Glu
                325                 330                 335
Phe Tyr Ile Phe Arg Phe Val Ile Gly Lys Gln Pro Tyr Lys Leu Gln
        340                 345                 350
Phe Asp Gln Tyr Gln Pro Asn Trp Asn
        355                 360
```

<210> 4658
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4658
```
Asn Asn Phe Leu Lys Asn Gly Gly Val Leu Lys Leu Thr Arg Ile Asn
1               5                   10                  15
Asp Phe Asn Glu Val Leu Asn Ser Arg Lys Ser Leu Lys Val Phe Asp
                20                  25                  30
Glu Asn Tyr Lys Ile Pro Arg Glu Glu Met Asp Glu Ile Ile Thr Lys
            35                  40                  45
Ala Thr
    50
```

<210> 4659
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4659
```
Asn Leu Tyr Leu Ile Met Lys Asn Arg Phe Thr Tyr Ala Asp Lys Asp
1               5                   10                  15
```

```
Arg Leu Leu Arg Tyr Leu Leu Ile Lys Met Lys Ala Tyr Val Arg Tyr
        20                  25                  30
Ser Ile Ala Thr Glu Glu Gln Leu Leu Leu Leu Glu Lys
        35                  40                  45
```

<210> 4660
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4660
```
Leu Phe Val Ala Phe Ile Lys Pro Met Ser Lys Lys Arg Asn Gly Thr
1               5                   10                  15
Ala Thr Asp Asp Trp Arg Tyr Asp Val Asn Glu Asn Lys His His Phe
            20                  25                  30
Ile His Leu Leu Ser Ala·Ser Lys Leu Thr Pro Glu Arg
        35                  40                  45
```

<210> 4661
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4661
```
Gly Pro Tyr Phe Ser Lys Tyr Phe Asn Val Lys Leu His Met Asn Ile
1               5                   10                  15
Lys Tyr Phe Gly Glu Thr Leu Glu Gly Thr Gly Gln Ala Glu Asp Tyr
            20                  25                  30
Arg Leu Lys Leu Ser Pro Lys Lys Ala Ser Gln Gln Tyr Val Val Leu
        35                  40                  45
```

<210> 4662
<211> 66
<212> PRT
<213> S.epidermidis

<400> 4662
```
Thr Arg Ser Ala Ser Tyr Asn Lys Thr Pro Lys Tyr Leu Ile Arg Pro
1               5                   10                  15
Val Gln Val Ser Glu Gln Thr Val Gly Ile Pro Ala Ser Ile Arg Gly
            20                  25                  30
Lys Gln Asn Val His Phe Ser Ala Leu Phe Val Phe Gln Leu Lys Tyr
        35                  40                  45
Thr Phe Leu Tyr Gly His Pro Val Ile Gln Tyr Leu Gln Pro Arg Gln
    50                  55                  60
Ala Ser
65
```

<210> 4663
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4663
```
Asp Tyr Tyr Phe Arg Lys Ile Pro Leu Tyr Ile Thr Gly Ile Asn Lys
1               5                   10                  15
```

```
Ile Lys Pro Lys Ser Pro Met Ile Gly Asn Thr Leu Pro Met Arg Glu
            20                  25                  30
Met Asn Pro Thr Lys Val Gln Ala Asn Val Ile Ile Ala Ile Ile Thr
            35                  40                  45
Ile Arg Ile
    50
```

```
<210> 4664
<211> 53
<212> PRT
<213> S.epidermidis
```

```
<400> 4664
Lys Ser Ala Ala Ile Ala Ser Cys Phe Ile Leu Ile Ile Asn Ser Gly
1               5                   10                  15
Leu Asn Ser Asn Val Tyr Ile Lys Thr Thr Val Thr Thr Asn Ile Ile
            20                  25                  30
Ala Gly Ile Asn Arg Leu Asn Leu Leu Ser Gln Lys Leu Thr Lys Leu
            35                  40                  45
Ile Glu Leu Phe Leu
    50
```

```
<210> 4665
<211> 527
<212> PRT
<213> S.epidermidis
```

```
<400> 4665
Thr Asn Tyr Leu Cys Leu Ser Lys Arg Trp Gly Ala Tyr Ile Val Ser
1               5                   10                  15
Lys Thr Asn Leu Gly Glu Lys Trp Gly Leu Leu Ala Gly Gly Ser Leu
            20                  25                  30
Leu Val Asp Tyr Ile Leu Thr Val Ala Val Ser Ile Ser Ser Gly Ala
            35                  40                  45
Asp Ala Phe Val Ala Ala Phe Pro His Leu Tyr His Phe Lys Val Leu
    50                  55                  60
Ile Ala Cys Leu Leu Val Leu Phe Ile Leu Met Met Asn Leu Arg Gly
65                  70                  75                  80
Leu Thr Glu Ser Ala Thr Val Leu Ser Tyr Pro Val Tyr Leu Phe Ile
            85                  90                  95
Ile Gly Leu Ile Val Leu Ile Val Val Gly Thr Phe Arg Val Ala Thr
            100                 105                 110
Gly Gln Ile Ala Pro His Ile His Ser Thr Val Gly Ser Thr Val Pro
            115                 120                 125
Gly Val Thr Leu Phe Leu Leu Leu Lys Ala Phe Ser Ser Gly Ala Ser
            130                 135                 140
Ser Leu Thr Gly Val Glu Ala Ile Ser Asn Ala Val Thr Asn Phe Lys
145                 150                 155                 160
Asn Pro Ala Pro Lys Asn Ala Val Lys Thr Leu Val Thr Met Gly Thr
            165                 170                 175
Ile Leu Ala Val Leu Leu Val Gly Ile Val Val Leu Ser Tyr Ile Tyr
            180                 185                 190
Gly Ile Met Pro Gln Thr Glu Thr Thr Val Leu Ser Gln Leu Ala Ser
            195                 200                 205
Gln Ile Phe Gly Glu Asn Val Ala Phe Tyr Phe Ile Gln Ala Thr Thr
            210                 215                 220
```

```
Val Met Ile Leu Val Leu Ala Ala Asn Thr Gly Phe Thr Ala Phe Pro
225             230             235             240
Met Leu Ala Ala Ser Met Ser Lys Asp Lys Tyr Met Pro Arg Met Phe
                245             250             255
Thr Val Arg Gly Asp Arg Leu Gly Tyr Ser Asn Ser Ile Ile Ile Leu
            260             265             270
Gly Val Leu Ala Ile Ile Leu Ile Ile Leu Phe Glu Gly Met Thr Glu
        275             280             285
Asn Leu Ile Pro Leu Tyr Ala Val Gly Val Phe Ile Pro Phe Thr Leu
    290             295             300
Ala Gln Phe Gly Met Val Leu Lys Trp Leu Arg Glu Arg·Pro Glu Arg
305             310             315             320
Trp Gly Ile Lys Leu Thr Ile Asn Leu Ile Gly Gly Thr Ile Thr Phe
            325             330             335
Ile Val Phe Met Ile Leu Leu Ile Thr Lys Leu Asn Gln Val Trp Pro
            340             345             350
Ile Leu Leu Phe Leu Pro Phe Ile Val Phe Ile Phe Ile Arg Ile His
        355             360             365
Val His Tyr Glu Asn Ile Ala Cys Glu Leu Arg Ser Glu Ile Asp Ile
    370             375             380
His Asp Ile Pro Val Val Asp Arg Asn Leu Ala Ile Val Pro Ile Gln
385             390             395             400
Ser Ile Thr Thr Val Val Asp Lys Ser Ile Tyr Tyr Ala Lys Leu Leu
            405             410             415
Ala Asn Asp Asp Val Ile Ala Val His Val Thr Phe Gly Asp Glu Asp
        420             425             430
Glu Gln Ala Phe Met Thr Lys Trp Lys Lys His Phe Pro Asp Val Arg
        435             440             445
Leu Val Ile Leu His Ser Glu Tyr Arg Ser Ile Ile His Pro Ile Ser
    450             455             460
Arg Phe Ile Asp Lys Ile Arg Lys Lys Ala Asn Asp Lys Asn Tyr Leu
465             470             475             480
Ile Thr Val Val Val Pro Glu Phe Ile Pro Lys Lys Ala Trp Gln His
            485             490             495
Leu Leu His Asn Gln Thr Ser Leu Arg Leu Lys Leu His Leu Ile Tyr
            500             505             510
Gln Lys Asn Val Thr Leu Cys Thr Ile Pro Phe Lys Leu Ile Lys
            515             520             525
```

<210> 4666
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4666
```
Leu Asn Asn Ala Leu Leu Phe Val Lys Ile Ile Lys Pro Pro Thr Gln
1               5               10              15
Ile Ala Arg Met Leu Met Gly Asn Thr Leu Thr Lys Tyr Ala Glu Ile
            20              25              30
Gly Ala Ala Thr Ile Pro Pro Arg Leu Lys Ala Ile Thr Ala Asn Gln
        35              40              45
Leu Ile
    50
```

<210> 4667
<211> 330

<212> PRT
<213> S.epidermidis

<400> 4667
His Ser Tyr Leu Cys Asn Phe Ile Met Lys Glu Phe Val Lys Met Lys
1   5   10   15
Lys Phe Gly Lys Lys Val Val Leu Val Gly Asp Gly Ser Val Gly Ser
            20   25   30
Ser Tyr Ala Phe Ala Met Val Thr Gln Gly Ile Ala Asp Glu Phe Val
        35   40   45
Ile Ile Asp Ile Ala Lys Asp Lys Val Glu Ala Asp Val Lys Asp Leu
    50   55   60
Asn His Gly Ala Leu Tyr Ser Ser Pro Val Thr Val Lys Ala Gly
65   70   75   80
Glu Tyr Glu Asp Cys Lys Asp Ala Asp Leu Val Val Ile Thr Ala Gly
            85   90   95
Ala Pro Gln Lys Pro Gly Glu Thr Arg Leu Gln Leu Val Glu Lys Asn
            100   105   110
Thr Lys Ile Met Lys Ser Ile Val Thr Ser Val Met Asp Ser Gly Phe
        115   120   125
Asp Gly Phe Phe Leu Ile Ala Ala Asn Pro Val Asp Ile Leu Thr Arg
        130   135   140
Tyr Val Lys Glu Val Thr Gly Leu Pro Ala Glu Arg Val Ile Gly Ser
145   150   155   160
Gly Thr Val Leu Asp Ser Ala Arg Phe Arg Tyr Leu Ile Ser Lys Glu
            165   170   175
Leu Gly Val Thr Ser Ser Ser Val His Ala Ser Ile Ile Gly Glu His
            180   185   190
Gly Asp Ser Glu Leu Ala Val Trp Ser Gln Ala Asn Val Gly Gly Ile
            195   200   205
Ser Val Tyr Asp Thr Leu Lys Glu Glu Thr Gly Ser Asp Ala Lys Ala
        210   215   220
Asn Glu Ile Tyr Ile Asn Thr Arg Asp Ala Ala Tyr Asp Ile Ile Gln
225   230   235   240
Ala Lys Gly Ser Thr Tyr Tyr Gly Ile Ala Leu Ala Leu Leu Arg Ile
            245   250   255
Ser Lys Ala Leu Leu Asn Asn Glu Asn Ser Ile Leu Thr Val Ser Ser
            260   265   270
Gln Leu Asn Gly Gln Tyr Gly Phe Asn Asp Val Tyr Leu Gly Leu Pro
        275   280   285
Thr Leu Ile Asn Gln Asn Gly Ala Val Lys Ile Tyr Glu Thr Pro Leu
        290   295   300
Asn Asp Asn Glu Leu Gln Leu Leu Glu Lys Ser Val Lys Thr Leu Glu
305   310   315   320
Asp Thr Tyr Asp Ser Ile Lys His Leu Val
            325   330

<210> 4668
<211> 88
<212> PRT
<213> S.epidermidis

<400> 4668
Ile Pro Ser Ala Ser Thr Pro Glu Asn Glu Pro Gly Pro Thr Ala Leu
1   5   10   15
Ile Asn Ile Asn Ala Ile Thr Ile Ser Gly Asn Thr Arg Ile Met Leu

```
                    20                      25                      30
Asn Met Asn Leu Leu Met Pro Val Thr Gly Arg Asn Phe Ile Ile Phe
          35                      40                      45
Leu Ala Pro Lys Asn Ala Lys Gly Ile His Ile Ile Glu Ala Met Asn
      50                      55                      60
Val Pro Ile Thr Ala Ile Ala Lys Val Ser Ser Lys Pro Leu Ser Lys
65                      70                      75                      80
Ser Ser Pro Ser Gly Ile Tyr Met
                    85
```

```
<210> 4669
<211> 192
<212> PRT
<213> S.epidermidis
```

```
<400> 4669
Asn Gly Gly Ala Met Met Asp Tyr Asn Asn Asn Asp Ser Gln Tyr Ile
1               5                      10                      15
Glu Glu Ala Lys Asp Leu Val Ile Asn Ser Ile Gly Glu Thr Met Asp
              20                      25                      30
Leu Tyr Gly Ile Asn Arg Ser Val Gly Asn Leu Tyr Gly Ile Met Val
          35                      40                      45
Phe Glu Gly Ser Met Thr Leu Asp Glu Met Arg Gln Gln Leu Gln Met
      50                      55                      60
Ser Lys Pro Ser Met Ser Thr Gly Val Lys Lys Leu Gln Glu Tyr Asp
65                      70                      75                      80
Ile Val Lys Gln Gln Phe Thr Arg Gly Ser Arg Lys Gln His Phe Ile
                  85                      90                      95
Ala Glu Lys Asp Phe Phe Thr Phe Phe Arg Asn Phe Phe Thr Lys Lys
              100                     105                     110
Trp Glu Arg Glu Ile Asp Thr Asn Met Glu Ala Ile Glu Asp Ala Glu
          115                     120                     125
Asn Ile Ile His Pro Leu Leu Glu Lys Asn Asp Ile Asp Glu Glu Val
          130                     135                     140
Lys Lys Gln Ala Ile Asn Val Lys Ala Gln Leu Asp His Ser Lys Ile
145                     150                     155                     160
Tyr Tyr Lys Trp Leu Ala Gln Leu Ser Glu Ala Leu Glu Ser Gly Glu
                  165                     170                     175
Ile Phe Asn Tyr Phe Pro Ile Pro Asp Glu Gln His His His Asp Gln
              180                     185                     190
```

```
<210> 4670
<211> 86
<212> PRT
<213> S.epidermidis
```

```
<400> 4670
Val Cys Ile Ala Cys Leu Lys Cys Gly Phe Leu Met Leu Arg Cys Tyr
1               5                      10                      15
Phe Asn Val Phe Ser Phe Tyr Gln Asn Gly Lys Leu Tyr Leu Leu Lys
              20                      25                      30
Ile Thr Lys Pro Val Thr Trp Leu Trp Leu Asp Arg His Leu Gln Leu
          35                      40                      45
Asn Ile Ser Asn Val Lys Val Thr Met Ile Lys Gln Thr Pro Lys Leu
      50                      55                      60
His Leu Leu Ile Leu Ser Arg Glu Val Asp Lys Lys Glu Tyr Ser Leu
```

```
65                    70                   75                        80
Leu Gln Ile Pro Thr Lys
                     85


<210> 4671
<211> 316
<212> PRT
<213> S.epidermidis


<400> 4671
Trp Arg Tyr Leu Leu Met Ser Ile Thr Tyr Pro Gly Thr Val Tyr Leu
1               5                   10                  15
Ile Gly Ala Gly Pro Gly Asn Pro Asn Leu Leu Thr Lys Lys Ala Glu
            20                  25                  30
Arg Leu Ile Arg Ser Ala Asp Val Ile Leu Phe Asp Arg Leu Val Asn
        35                  40                  45
Pro Phe Ile Leu Gln Tyr Ala Ser Ser Gln Thr Lys Val Ile Asn Val
        50                  55                  60
Gly Lys Lys Pro Tyr Cys Lys His Ile Gln Gln Glu Glu Ile Asn Gln
65                  70                  75                      80
Lys Ile Val Glu Ala Ala Asn Gln Tyr Gln Cys Val Val Arg Leu Lys
            85                  90                  95
Gly Gly Asp Pro Ala Ile Phe Gly Arg Ile Thr Glu Glu Val Gln Thr
            100                 105                 110
Leu Glu Asp His His Ile His Tyr Glu Ile Val Pro Gly Val Thr Ser
        115                 120                 125
Ala Ser Ala Ala Val Ala Thr Met Asn Met Gly Leu Thr Met Arg Ser
        130                 135                 140
Ile Ala Pro Ser Val Thr Phe Ser Thr Gly His Phe Lys Asp Ser Val
145                 150                 155                     160
Asn His Asp Met Asp Ile Arg Asn Leu Ile Asn Gly Gly Thr Leu Ala
            165                 170                 175
Ile Tyr Met Gly Val Lys Arg Leu Gly Gln Ile Ile Lys Gln Ile Glu
            180                 185                 190
Ser Tyr Thr Asn Glu Asp Tyr Pro Ile Ala Ile Val Phe Asn Ala Ser
        195                 200                 205
Cys Tyr Asn Glu Lys Ile Val Ile Gly His Leu Ser Thr Ile Glu Glu
        210                 215                 220
Gln Leu Val Ser Gln Gln Leu Glu Gly His Pro Gly Ile Cys Ile Leu
225                 230                 235                     240
Gly Asn Ile Leu Asp Asp Ile Asn Arg Thr Leu Leu Asn Asn Asn Lys
            245                 250                 255
Asn Asp Lys Gly Asn Leu Tyr Leu Ile Lys Gly Asp Lys Glu Arg Ala
            260                 265                 270
Ile Ala Lys Ala Glu Thr Leu Tyr Asp Glu Gly Ile Gln Cys Leu Ile
        275                 280                 285
Asp Phe Asp His Ser Tyr His Ile Ser Gln Gln Asn Val Tyr Asn Glu
        290                 295                 300
Met Ile Lys His Lys Ser Ile Lys Thr Ile Tyr Val
305                 310                 315


<210> 4672
<211> 43
<212> PRT
<213> S.epidermidis
```

<400> 4672

Lys Leu Lys Ala Pro Val His Thr Leu Met Tyr Arg Arg Leu Ile Tyr
1   5   10   15
Val Leu Lys Tyr Thr Leu Phe Tyr Phe Glu Leu Ile Asn Gly His Val
                20   25   30
Ile Asp Tyr Leu Phe Ile Lys Gln Ile Asn Leu
            35   40

<210> 4673
<211> 198
<212> PRT
<213> S.epidermidis

<400> 4673

Arg Asn Gly Ala Tyr Val Met Asn Tyr Gln Ile Lys Arg Asn Thr Glu
1   5   10   15
Glu Thr Gln Leu Asn Ile Ser Leu Ala Asn Asn Gly Thr Gln Ser His
                20   25   30
Ile Asn Thr Gly Val Gly Phe Leu Asp His Met Leu Thr Leu Phe Thr
            35   40   45
Phe His Ser Gly Leu Thr Leu Ser Ile Glu Ala Thr Gly Asp Thr Tyr
        50   55   60
Val Asp Asp His His Ile Thr Glu Asp Ile Gly Ile Val Ile Gly Gln
65   70   75   80
Leu Leu Leu Glu Leu Ile Lys Thr Gln Gln Ser Phe Thr Arg Tyr Gly
                85   90   95
Cys Ser Tyr Val Pro Met Asp Glu Ala Leu Ala Arg Thr Val Val Asp
            100   105   110
Ile Ser Gly Arg Pro Tyr Phe Ser Phe Asn Ser Lys Leu Ser Ala Gln
            115   120   125
Lys Val Gly Thr Phe Asp Thr Glu Leu Val Glu Glu Phe Phe Arg Ala
            130   135   140
Leu Ile Ile Asn Ala Arg Leu Thr Val His Ile Asp Leu Leu Arg Gly
145   150   155   160
Gly Asn Thr His His Glu Ile Glu Ala Ile Phe Lys Ser Phe Ala Arg
                165   170   175
Ala Leu Lys Ile Ser Leu Ala Gln Asn Glu Asp Gly Arg Ile Pro Ser
            180   185   190
Ser Lys Gly Val Ile Glu
        195

<210> 4674
<211> 146
<212> PRT
<213> S.epidermidis

<400> 4674

Phe Tyr Leu Ala Gly Ala Ile Ser Asp Lys Ile Leu Asn Thr Gly Gln
1   5   10   15
Ser Arg Phe Val Ala Arg Gly Val Ile Ala Ile Ala Gly Phe Val Val
                20   25   30
Phe Ser Ile Ser Ile Phe Leu Ala Val His Thr Asp Asn Leu Tyr Val
            35   40   45
Thr Ile Phe Trp Leu Ser Leu Cys Leu Gly Gly Val Arg Ile Ser Met
        50   55   60
Gly Met Ser Trp Ala Ala Ala Thr Asp Leu Gly Arg Asn Phe Ser Gly

```
65                    70                    75                    80
Thr Val Ser Gly Trp Met Asn Leu Trp Gly Asn Val Gly Ala Leu Ile
                    85                    90                    95
Ser Pro Leu Leu Ala Gly Ile Val Val Asp His Leu Gly Trp Ser Met
              100                  105                  110
Thr Leu Gln Leu Leu Ile Val Pro Ala Ile Ile Ala Ala Ile Leu Trp
        115                  120                  125
Phe Phe Val Lys Pro Asp Lys Pro Leu Ile Val Ser Glu Glu His Val
    130                  135                  140
Asn Lys
145


<210> 4675
<211> 45
<212> PRT
<213> S.epidermidis


<400> 4675
Lys Gly Leu Ala Ala Leu Ile Ala Gln Ser Asn Glu Phe Thr Phe Lys
1                   5                   10                  15
Ile Ala Phe Asn Leu Ser Lys Lys Arg Tyr Ser Val Tyr Tyr Ser Ile
              20                  25                  30
Gln Ile Asn Lys Ile Thr Lys Gly Pro Asn Thr Leu Asp
        35                  40                  45


<210> 4676
<211> 48
<212> PRT
<213> S.epidermidis


<400> 4676
Ile Leu Met Ala Val Leu Trp Ala Ile Ile Ala Lys Asp Leu Ala Glu
1                   5                   10                  15
Gln His Lys Met Val Asn Asp Ala Glu Lys Arg Leu Leu Ile Lys Ile
              20                  25                  30
Val Ile Leu Ser Gln Leu Arg Asn Leu Tyr His Arg Gly Asn Val Phe
        35                  40                  45


<210> 4677
<211> 95
<212> PRT
<213> S.epidermidis


<400> 4677
Thr Ser Met Ala Ala Glu Ile Lys Gln Gly Asp His Lys Phe Tyr Val
1                   5                   10                  15
Gly Asn Asp Glu Asn Asn Pro Lys Ala Val Ile Thr Phe Lys Glu Val
              20                  25                  30
Asp Asn Asn Glu Ile Asp Ile Asp His Thr Gly Val Ser Asp Glu Leu
        35                  40                  45
Gly Gly Gln Gly Leu Gly Lys Lys Leu Val Asn Arg Val Val Glu His
    50                  55                  60
Ala Arg Glu Asn Asn Leu Lys Ile Ile Ala Ser Cys Pro Phe Ala Lys
65                  70                  75                  80
Asn Val Leu Glu Lys Asp Asp His Ala Gln Asp Val Tyr Leu Gly
              85                  90                  95
```

<210> 4678
<211> 287
<212> PRT
<213> S.epidermidis

<400> 4678
Met Lys Glu Ala Lys Met Lys Lys Gln Gln Asn Lys Val His Met Ile
1   5   10   15
Asn Ile Ser Leu Cys Leu Ile Gly Thr Leu Leu Ile Ala Ile Ala Val
            20   25   30
Asn Ser Phe Val Ile Pro Gly Asn Leu Gly Glu Gly Gly Ser Ile Gly
            35   40   45
Leu Ser Leu Ile Leu Asn Tyr Thr Leu Gly Ile Ser Pro Ala Leu Ser
        50   55   60
Ser Phe Ile Ile Asn Ala Ile Leu Ile Ile Val Gly Trp Lys Phe Leu
65   70   75   80
Ser Arg Thr Thr Ala Ile Tyr Thr Ala Ile Thr Ile Thr Ala Ser Ser
                85   90   95
Ile Phe Leu Asp Leu Thr His Thr Phe Gly Leu Gly Ile His Asp Asn
            100   105   110
Phe Ile Asn Ser Ile Phe Ala Gly Leu Met Leu Gly Ile Gly Ser Gly
        115   120   125
Leu Val Ile Thr Ala His Ser Thr Leu Gly Gly Thr Ser Val Ile Ala
    130   135   140
Arg Ile Ile Ser Lys Tyr Ser Glu Met Lys Thr Ser Gln Ala Leu Leu
145   150   155   160
Ile Leu Asp Ala Ile Ile Val Leu Ser Phe Ile Val Val Leu Pro Ile
                165   170   175
Thr Asn Val Leu Tyr Thr Ile Val Met Leu Phe Ile Val Glu Lys Ser
            180   185   190
Met Ser Phe Val Val Glu Gly Phe Asn Pro Lys Lys Ala Val Thr Val
        195   200   205
Ile Ser Lys Tyr Asn Lys Glu Ile Ser Ala Asp Ile Tyr Glu Met Thr
    210   215   220
Gly Arg Gly Ala Thr Leu Leu Ser Gly Lys Gly Ala Tyr Gln Lys Ser
225   230   235   240
Asp Thr Glu Val Leu Tyr Ala Val Val Ser Gln Asn Gln Val Gly Ala
                245   250   255
Ile Lys Lys Ile Val Asn Gln Tyr Asp Glu Asn Ala Phe Leu Val Ile
            260   265   270
His Asp Val Arg Asp Val Leu Gly Asn Gly Phe Ile Asn Ile Lys
        275   280   285

<210> 4679
<211> 181
<212> PRT
<213> S.epidermidis

<400> 4679
Tyr Thr His Leu Arg Ser Trp Arg Asn Met Tyr Gln Ser Met Tyr Asp
1   5   10   15
Ser Pro Val Gly Leu Leu Gln Leu Ile Thr Asn Asp Gly Ile Ser Leu
            20   25   30
Ser His Val Leu Tyr Pro Asn Gln His Leu Lys Gly Ile Lys Thr Asn
        35   40   45

```
Asp Thr Leu Asp Val Phe Lys Asp Thr Lys Ala Trp Leu Arg Glu Tyr
    50                      55                  60
Phe Lys Gly Asn Tyr Pro Glu Ile Lys Val Pro Leu Ala Pro Lys Gly
65                      70                  75                  80
Thr Asp Phe Gln Gln Lys Val Trp Asn Glu Leu Gln Thr Ile Arg Tyr
                85                  90                  95
Arg Glu Leu Lys Thr Tyr Gly Glu Ile Ala Lys Thr Val Gly Arg Ala
                100                 105                 110
Met Asn Lys Pro Ala Met Ser Ala Gln Ala Val Gly Gly Ala Val Gly
            115                 120                 125
Ser Asn Pro Ile Ser Ile Leu Ile Pro Cys His Arg Val Val Gly Lys
    130                 135                 140
Asp Gly Asn Leu Thr Gly Tyr Gly Gly Thr Leu Asp Asn Lys Ile Lys
145                 150                 155                 160
Leu Leu Lys Leu Glu Glu Ile Asp Met Thr His Leu Tyr Arg Pro Lys
                165                 170                 175
Lys Thr Thr Lys Pro
                180
```

```
<210> 4680
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4680
Tyr Ser His Leu Tyr Phe Val Trp Tyr Asn His Phe Lys Tyr Glu Asn
1               5                   10                  15
Val Val Arg Asp Phe Met Asn Leu Glu Lys Ser Tyr Ile Glu Gln Gln
            20                  25                  30
Val Thr Asn Arg Gly Lys Ser Thr Ala Val Ser
            35                  40
```

```
<210> 4681
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4681
Val Ile Asn Leu Ile Asp Gly Ser Ile Tyr His Phe Ile Asn Met Ile
1               5                   10                  15
Tyr Leu Ile His Lys Lys Ser Val Glu Leu Leu Leu Asn Lys Leu Ile
            20                  25                  30
Glu Lys Asp Thr Leu Tyr Phe Leu Phe Leu Gln Ser Ser Phe Leu Phe
            35                  40                  45
Ser Ile Thr Lys Arg Met
    50
```

```
<210> 4682
<211> 454
<212> PRT
<213> S.epidermidis

<400> 4682
Gln Leu Phe Tyr Arg Asp Asn Leu Lys Val Gly Ile Lys Leu Ile Cys
1               5                   10                  15
Ser Asn Cys Gly Ala His Leu Glu Lys Asp Asp Lys Phe Cys Val Asn
```

```
                  20                        25                        30
      Cys Gly Gln Ser Val Phe Asp Asn Pro Lys Thr Lys Thr Glu His Asn
              35                        40                        45
      Phe Asn Ser Gln Asp Arg Gln Cys Pro Lys Cys His Lys Val Val Asn
              50                        55                        60
      Val Asp Asp Lys Phe Cys Ile Asn Cys Gly His Ser Leu Gln Gln Thr
      65                        70                        75                        80
      Leu Ser Asn Ser Asn Asp Asn Ile Ala Ser His Thr Tyr Ser Asn Thr
                      85                        90                        95
      Lys Pro Glu Ile Glu Asn Glu Thr Ala Asp His Ile Arg Leu Thr Glu
                      100                       105                       110
      Glu Ala Lys His Leu Phe Asn Asn Thr Thr Lys Ser Ile Gly Arg Leu
              115                       120                       125
      Ala Gly Asn Asp Glu Ser Leu Lys Leu Asn Leu Arg Asp Met Phe Ser
              130                       135                       140
      Glu Val Phe Lys Ser His Thr Lys Asp Glu Ala Asp Asp Val Phe Ile
      145                       150                       155                       160
      Ala Gly Thr Lys Arg Thr Thr Pro His Ile Asn Glu Val Ser Glu Glu
                      165                       170                       175
      Trp Gly Arg Pro Trp Val Phe Ser Arg Val Phe Leu Ala Leu Gly Ile
                      180                       185                       190
      Thr Phe Leu Ala Leu Trp Ile Leu Thr Asn Ile Phe Asp Asn Ala Asn
              195                       200                       205
      Ala Ile Pro Gly Met Ile Phe Ile Gly Ala Leu Leu Val Pro Ile Ser
              210                       215                       220
      Gly Leu Ile Phe Phe Phe Glu Ser Asn Ala Phe Lys Asn Ile Ser Ile
      225                       230                       235                       240
      Phe Asp Val Met Arg Met Phe Phe Ile Gly Gly Val Leu Ser Leu Ile
                      245                       250                       255
      Ser Thr Met Ile Leu Tyr Gln Phe Val Thr Phe Ser Thr Glu Ser Gln
                      260                       265                       270
      Tyr Tyr Gly Ile Met Thr Ile Thr Asp Ala Phe Ile Val Gly Phe Val
                      275                       280                       285
      Glu Glu Leu Gly Lys Ala Thr Val Val Ile Leu Phe Ile Asn Tyr Leu
              290                       295                       300
      Lys Thr Asn Lys Ile Leu Asn Gly Leu Leu Ile Gly Ala Ala Val Gly
      305                       310                       315                       320
      Ala Gly Phe Ala Val Phe Glu Ser Ala Gly Tyr Ile Phe Arg Phe Gly
                      325                       330                       335
      Phe Asn Leu Phe Asp Gly Ala Asn Asn Ile Thr Glu Ile Thr Ile Gln
                      340                       345                       350
      Arg Gly Trp Thr Ala Leu Gly Ser His Leu Val Trp Ala Ala Ile Val
              355                       360                       365
      Gly Ala Ala Ala Val Ile Val Lys Glu Thr Lys His Phe Glu Trp Ala
              370                       375                       380
      Asn Ile Ile Asp Lys Arg Phe Ile Phe Phe Phe Val Ala Val Thr
      385                       390                       395                       400
      Leu His Gly Ile Trp Asp Thr Glu Ile Thr Leu Leu Ser Ser Gly Tyr
                      405                       410                       415
      Leu Lys Tyr Ile Leu Leu Ile Met Ile Ala Trp Leu Phe Ile Phe Ile
                      420                       425                       430
      Leu Met Lys Ala Gly Leu Thr Gln Val Asn Gln Leu Arg Asp Glu Tyr
              435                       440                       445
      Asn Arg Leu Glu Glu Arg
              450
```

<210> 4683
<211> 70
<212> PRT
<213> S.epidermidis

<400> 4683
Ser Ile Ile Tyr Ile Lys Asp Glu Phe Val Met Phe Ile Leu Val Asn
1   5   10   15
Thr Ile Leu Phe Ile Ala Ile Phe Gly Tyr Thr Ala Met Thr Leu Val
            20   25   30
Lys Phe Phe Lys Arg Ser Lys Glu Gly Asp Cys Gly Gly Cys Lys Ser
        35   40   45
Asn Cys Lys Cys Asp Thr Asn Thr Ser Ser His Lys Asn Lys Leu Asn
    50   55   60
Ile Pro His Ile Lys Ser
65   70

<210> 4684
<211> 158
<212> PRT
<213> S.epidermidis

<400> 4684
Met Ser Ile Tyr Asp Ile Glu Val Glu Asn Tyr Asp Gly Ser Thr Tyr
1   5   10   15
Leu Leu Lys Arg Tyr Lys Gly Lys Val Leu Ile Ile Val Asn Thr Ala
            20   25   30
Thr Asn Cys Thr Leu Asn Asp Gln Phe Asn Lys Leu Glu Met Leu Tyr
            35   40   45
Lys Lys Tyr His Lys Tyr Gly Leu Glu Ile Leu Ser Phe Pro Cys Asn
        50   55   60
Asp Phe Asn Asn Gln Glu Pro Gly Leu Ile Lys Asp Ile Tyr Arg Val
65   70   .   75   80
Tyr Lys Tyr Lys Phe Gly Ile Thr Phe Pro Ile His Ala Lys Ile Asn
                85   90   95
Val Asn Gly Glu His Glu His Pro Leu Tyr Thr Leu Leu Lys Cys Lys
            100   105   110
Gln Pro Gly Leu Phe Gly Ser Gln Ile Lys Trp Asn Phe Thr Lys Phe
        115   120   125
Val Val Asp Gln Gln Gly Asn Ile Val Lys Arg Phe Leu Pro Cys Asp
    130   135   140
Asn Pro Asn Gln Met Glu Lys Leu Ile Arg Gln Leu Leu Lys
145   150   155

<210> 4685
<211> 403
<212> PRT
<213> S.epidermidis

<400> 4685
Ile Lys Val Tyr Asn Asn Leu Glu Glu Arg Ile Lys Met Asn Gln Thr
1   5   10   15
Leu Val Gln His Leu Arg Glu Lys Glu Gln Arg Met Lys Glu Ile Arg
            20   25   30
Arg Tyr Leu His Glu Asn Pro Glu Leu Ser Phe Glu Glu Asn Glu Thr
        35   40   45

```
Ser Lys Tyr Ile Ala Asn Phe Tyr Lys Asp Lys Asp Cys Leu Val Glu
    50                  55                  60
Thr Asn Val Gly Pro Asn Gly Ile Lys Val Thr Ile Ala Gly Lys His
65                  70                  75                  80
Pro Gly Lys Thr Ile Ala Ile Arg Ala Asp Phe Asp Ala Leu Pro Ile
                85                  90                  95
Lys Glu Glu Thr Glu Leu Pro Tyr Ala Ser Lys Asn Glu Gly Val Met
                100                 105                 110
His Ala Cys Gly His Asp Ala His Thr Ala Tyr Met Leu Ile Leu Gly
            115                 120                 125
Glu Thr Leu Ile Glu Met Lys Asp Gln Leu Arg Gly Asn Val Val Ile
    130                 135                 140
Ile His Gln Pro Ala Glu Glu Met Pro Pro Gly Gly Ala Lys Gly Met
145                 150                 155                 160
Ile Asp Asp Gly Val Leu Glu Gly Val Asp His Val Leu Gly Ala His
                165                 170                 175
Val Met Ser Met Met Glu Thr Gly Lys Ile Tyr Tyr Arg Glu Gly Phe
                180                 185                 190
Val Gln Thr Gly Arg Ala Tyr Phe Arg Leu Val Val Lys Gly Gln Gly
            195                 200                 205
Gly His Gly Ser Ser Pro His Thr Ser Asn Asp Ala Ile Val Ala Gly
    210                 215                 220
Ala His Phe Val Thr Thr Ala Gln Thr Ile Val Ser Arg Arg Leu Asn
225                 230                 235                 240
Pro Phe Glu Thr Gly Val Val Thr Ile Gly Ser Phe Asp Gly Lys Gly
                245                 250                 255
Gln Phe Asn Val Ile Lys Asp Thr Ile Thr Ile Glu Gly Asp Val Arg
            260                 265                 270
Ala Leu Thr Asp Asp Thr Arg Asp Asn Ile Gln Asn Glu Met Thr Arg
            275                 280                 285
Leu Val Arg Gly Leu Glu Glu Met Phe Gly Val Ile Cys Asp Phe Glu
    290                 295                 300
Phe Lys Lys Asp Tyr Pro Ala Leu Tyr Asn Asp Pro Glu Phe Thr Ser
305                 310                 315                 320
Tyr Val Ala Thr Thr Leu Lys Asn Ala Lys Leu Asp Asp Ile Lys Ala
                325                 330                 335
Ile Asp Ile Cys Glu Pro Gln Pro Pro Ser Glu Asp Phe Ala Phe Tyr
            340                 345                 350
Ala Leu Glu Arg Pro Ser Thr Phe Ile Tyr Ser Gly Ala Ala Pro Glu
            355                 360                 365
Asp Gly Pro Met Tyr Pro His His His Pro Lys Phe Asn Ile Asn Glu
    370                 375                 380
Thr Ser Met Leu Val Val Ala Glu Ala Val Gly Thr Ile Val Leu Asp
385                 390                 395                 400
Tyr Leu Lys
```

```
<210> 4686
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4686
Leu Ile Tyr Tyr Ile Asp Val His Asn Leu Ser Thr Ile Thr Cys Asn
1               5                   10                  15
Leu Ile Ile Tyr His Thr Asn Ile Lys Ser Lys Glu Met Met Val Ile
```

```
                20                         25                         30
Tyr Ile Tyr Tyr Lys Ile Lys Asn Ile Asp Leu Tyr Lys Asn Lys Gly
            35                         40                         45
```

<210> 4687
<211> 60
<212> PRT
<213> S.epidermidis

<400> 4687
```
Trp Leu Asn Leu Lys Cys Ala Glu Val Asn Leu Tyr Ile Ile Asn Ser
1               5                          10                      15
Leu Lys Arg Tyr Thr Thr Val Asp Ile Leu Ile Asn Tyr Tyr Phe Phe
            20                         25                         30
Asp Val Leu Thr Leu Tyr Leu Leu Ile Asn Ile Trp Asn Ser Leu Tyr
            35                         40                         45
Leu Ile Val Ser Leu Tyr Ile Glu Val Gly Met Ala
        50                      55                      60
```

<210> 4688
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4688
```
Asn Ile His Tyr Thr Ile Phe Leu Val Tyr Val Tyr Phe Arg Lys Asp
1               5                          10                      15
Lys Lys Phe Leu Thr Tyr Phe Lys Thr Thr Tyr Lys Ile Leu Leu Lys
            20                         25                         30
Ser His Tyr Lys Ile Ser Gly Phe Lys Met His Gln Tyr Phe Tyr Asn
            35                         40                         45
```

<210> 4689
<211> 431
<212> PRT
<213> S.epidermidis

<400> 4689
```
Ser Cys Asn Tyr Ile Asp Lys Val Lys Val Leu Gln Phe Met Lys Gly
1               5                          10                      15
Gly Ile Met Met Ser Val Leu Ser Asn Glu Glu Arg Val Glu Ile Leu
            20                         25                         30
Ser Asp Ile Val Ser Ile Lys Thr Val Asn Ser Asn Glu Leu Glu Val
            35                         40                         45
Ala Gln Tyr Phe Glu Arg Leu Phe Ser Gln Tyr Gly Ile Arg Ser Tyr
        50                      55                      60
Ile Asp Ile Val Ala Asp Gly Arg Ala Asn Leu Ile Ala Thr Val Gly
65                      70                      75                      80
Ser Ser His Pro Val Ile Gly Ile Ser Gly His Met Asp Val Val Ser
            85                      90                      95
Glu Gly Asn His Asp Asp Trp Thr Tyr Asp Pro Phe Thr Leu Thr Glu
            100                        105                        110
Asp Gln Gly Tyr Leu Tyr Gly Arg Gly Ala Ala Asp Met Lys Ser Gly
            115                        120                        125
Leu Ala Ala Leu Ala Ile Ala Leu Ile Glu Ile Lys Glu Ser Gly Lys
        130                        135                        140
```

```
Leu Thr Gln Gly Thr Ile Lys Phe Met Ala Thr Val Gly Glu Glu Met
145                 150                 155                 160
Glu Gln Ser Gly Ser Gln Gln Leu Phe Glu Lys Gly Tyr Ala Asp Asp
                165                 170                 175
Leu Asp Ala Leu Leu Ile Ala Glu Pro Ser Phe Pro Ser Leu Val Tyr
                180                 185                 190
Ala His Lys Gly Ser Met Asp Phe Arg Ile Lys Ser Lys Gly Arg Ala
            195                 200                 205
Ser His Ser Ser Ile Pro Phe Leu Gly Gln Asn Ala Ile Lys Pro Leu
    210                 215                 220
Leu Glu Phe Ile Gln Asn Ile Asn Gln Glu Tyr Glu Lys Ile Met Gln
225                 230                 235                 240
Thr Val Lys Gly Glu Ser Leu Asp Phe Ser Asn Met Ile Asn Lys Leu
                245                 250                 255
Glu Asn Gln Leu Pro Asn His Ile Thr Lys Glu Lys Ala Gln Glu Leu
                260                 265                 270
Ile Gln Gly Leu Val Met Thr Asn Ser Ile Val Gln Gly Gly Thr Gln
            275                 280                 285
Val Asn Ser Val Pro Asp Phe Ala Thr Ala Glu Phe Asn Val Arg Thr
    290                 295                 300
Ile Pro Glu Tyr Asn Asn Asn Lys Val Lys Ala Leu Phe Asn Lys Tyr
305                 310                 315                 320
Val Glu Gln Ala Asn His Asn Gly Ala Ser Leu Thr Gln Glu Leu Tyr
                325                 330                 335
Leu Asp Leu Glu Pro Val Val Thr Thr Gly Gln Asn Arg Leu Val Glu
                340                 345                 350
Leu Gly Phe Asp Ile Ala Lys Ser His Phe Ser Asn Glu Arg Asp Leu
            355                 360                 365
Ile Ile Thr Pro Thr Val Ala Val Thr Asp Ala Ser Asn Leu Leu Lys
    370                 375                 380
Gly Lys Asp Glu Asn Phe Pro Phe Leu Met Phe Gly Pro Gly Asn Gly
385                 390                 395                 400
Pro His Gln Ile Asn Glu Cys Val Glu Lys Val Asn Tyr Leu Glu Phe
                405                 410                 415
Val Glu Tyr Tyr Ile Glu Phe Ile Thr Ser Tyr Leu Asn Glu Lys
            420                 425                 430
```

```
<210> 4690
<211> 290
<212> PRT
<213> S.epidermidis


<400> 4690
Lys Val Asn Leu Leu Lys Phe His Asn Lys Ile Lys Gly Tyr Thr Gln
1               5                   10                  15
Asn Arg Gln Pro Gly Ile Glu Ala Asp Met Glu Pro Lys Pro Ile Ala
            20                  25                  30
Glu Leu Glu Glu Tyr Lys Ala Ala Gly Lys Leu Glu Asn Lys Val Ala
        35                  40                  45
Leu Ile Thr Gly Gly Asp Ser Gly Ile Gly Arg Ala Ile Ala Ile Leu
    50                  55                  60
Tyr Ala Lys Glu Gly Ala Asn Val Ala Ile Gly Tyr Tyr Asp Glu His
65                  70                  75                  80
Gln Asp Ala Glu Asp Thr Val Asn Arg Leu Gln Glu Met Gly Val Lys
                85                  90                  95
Ala Lys Ala Tyr Ala His Asp Leu Lys Asp Glu Lys Gln Ser Gln Lys
```

```
            100                     105                     110
Leu Ile Lys Asp Val Ile Asn Asp Phe Gly Ser Leu Asn Ile Leu Val
        115                     120                     125
Asn Asn Gly Gly Val Gln Phe Pro Arg Asp His Phe Glu Asp Ile Thr
    130                     135                     140
Pro Gln Gln Val Lys Glu Thr Phe Met Thr Asn Ile Phe Gly Met Met
145                     150                     155                     160
Phe Leu Ser Gln Ala Ala Val Pro Tyr Leu Ser Glu Gly Asp Thr Ile
                165                     170                     175
Ile Asn Thr Thr Ser Val Thr Ala Tyr Lys Gly Ser Gly His Leu Ile
            180                     185                     190
Asp Tyr Ser Ala Thr Lys Gly Ala Ile Val Ser Phe Thr Arg Ser Leu
        195                     200                     205
Ala Thr Thr Leu Met Glu Lys Gly Ile Arg Val Asn Ala Val Ala Pro
    210                     215                     220
Gly Pro Ile Tyr Ser Pro Leu Ile Pro Ala Thr Phe Asp Glu Glu Lys
225                     230                     235                     240
Val Glu His Gln Gly Asp Glu Thr Pro Met Gly Arg Arg Gly Gln Pro
                245                     250                     255
Ala Glu Leu Ala Pro Ser Tyr Val Phe Leu Ala Thr His Ala Asp Ser
                260                     265                     270
Ser Tyr Ile Thr Gly Gln Val Ile His Val Asn Gly Gly Asp Phe Ile
        275                     280                     285
Thr Ser
    290
```

<210> 4691
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4691

```
Ser Phe Arg Tyr Thr Arg Phe Val Glu Lys Cys Gly Ser Tyr Gly Gln
1               5                   10                      15
Asn Gln Ser Asp Ile Gly Phe Leu His His Ile Lys Phe Gln Pro Leu
            20                  25                      30
Gln Leu His Val Leu Tyr Leu Pro
        35                  40
```

<210> 4692
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4692

```
Asp Ile Arg Tyr Phe Thr Ser Val Leu Asn Glu Ile Phe Leu Val Tyr
1               5                   10                      15
Asn Ser Ile Ile Leu Thr Met Ser Asn Leu Lys Ser Thr Ile Thr Cys
            20                  25                      30
Ser Phe Leu Tyr Leu Cys Glu Ile Ser Gln His Phe Ser Gly Arg Tyr
        35                  40                      45
Ile Tyr Cys
    50
```

<210> 4693
<211> 65

```
<212> PRT
<213> S.epidermidis

<400> 4693
Gln Gln Phe Tyr Gly Ser Ser Leu Asn Gln Thr Asn Leu Leu Leu Leu
1               5                   10                  15
Val Lys Asn Thr Leu Ile Asn Asn Ile Phe Gln Thr His Ala Met Thr
            20                  25                  30
Phe Ile Ser Leu Arg Val Phe Ile Leu Leu Leu Cys Gly Ile Glu His
            35                  40                  45
Gly Ser Asp Lys Arg Ile Val Phe Phe Ile Ser Tyr Lys Leu Leu Asn
    50                  55                  60
Leu
65


<210> 4694
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4694
Asp Ile Tyr Tyr Lys Trp Leu Asn Leu Leu Leu Val Val Asp Tyr His
1               5                   10                  15
Phe Asp Ile Asp Ser Val Leu Lys Thr Leu Asn Gln Cys Tyr Val Asn
            20                  25                  30
Val Asn Leu Cys Lys Phe Ile Pro
            35                  40


<210> 4695
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4695
Gln Lys Cys Tyr Gly Asn Lys Asp Ile Ala Glu Lys Leu Phe Val Ser
1               5                   10                  15
Val Lys Thr Val Glu Ala His Lys Thr His Ile Met Thr Lys Leu Asn
            20                  25                  30
Leu Lys Ser Lys Pro Glu Leu Val Glu Tyr Ala Leu Lys Lys Lys Leu
            35                  40                  45
Leu Glu Phe
    50


<210> 4696
<211> 695
<212> PRT
<213> S.epidermidis

<400> 4696
Arg Asn Leu Phe Asn His Ala Tyr Leu Val Lys Lys Leu Asn Ser Lys
1               5                   10                  15
Ile Lys Ile Val Gly Glu Ile His Gly Pro Leu Glu Tyr Ile Asn Glu
            20                  25                  30
Asn Ile Asp Leu Ala Leu Asp Cys Ile Asp Cys Val Arg Val Ser Thr
            35                  40                  45
Ala Arg Ile Lys Asn Glu Phe Ile Ala Lys Tyr Asp Tyr His Arg Val
```

```
             50                      55                      60
Phe Asn Gln Tyr Val Asn Ala Gln His Ile Asp Leu Lys Ser Glu Pro
65                      70                      75                      80
Ile Asn Thr Lys Arg Asn Phe Leu Ile Lys Ala Arg Phe Glu Asp Glu
                    85                      90                      95
Val Lys Asp Ile Ser Tyr Ile Ile Lys Leu Phe Asn Tyr Ile Ile Lys
                    100                     105                     110
Asn Gln Ile Val Asp Asp Ala Gln Leu Tyr Leu Ile Gly Tyr Gly Pro
                    115                     120                     125
Ser Glu Met Leu Tyr Lys Asn Leu Ile Asn Tyr Tyr His Leu Asn Glu
        130                     135                     140
Tyr Ile His Ile Asn Glu Lys Glu Pro Gln Ser Tyr Ile Tyr Val Ser
145                     150                     155                     160
Ser Ser Pro Tyr Glu Thr Leu Gly Tyr Ser Ile Leu Glu Thr Ile Ala
                    165                     170                     175
Gln Gly Asn Lys Ala Leu Val Tyr Tyr Gly Asp Asp Asn Val Leu Lys
                    180                     185                     190
Asp Ile Tyr Ala Pro Tyr Glu Ala Ile Arg Phe Leu Thr Lys Asp Met
                    195                     200                     205
Ile Lys Asp Ser Lys Ile Ile Lys Asp Phe Leu Asn Tyr Lys Tyr Ser
        210                     215                     220
His Phe Asp Arg Gln Lys Tyr Tyr Arg Gln Leu Glu Ser Thr Phe Lys
225                     230                     235                     240
Cys Ile Asn Tyr Gly Gln Glu Phe Leu Asn Asn Val Glu Thr Phe Ser
                    245                     250                     255
Ser Ser Gln His Val Lys Val Lys Lys Ile His Arg His Leu Gly Ser
        260                     265                     270
Glu Lys Gln Ile Asp Ile Ala Ser Arg Leu Lys Glu Ser Arg Trp Met
        275                     280                     285
Asn Leu Ile Arg Lys Asn Lys Tyr Leu Phe Asn Lys Cys Lys Thr Tyr
        290                     295                     300
Tyr Glu Lys Arg Thr His Met Ser Tyr Ile Lys Asn Leu Asn Gln Ile
305                     310                     315                     320
Pro Val Asp Asp Asp Ser Ile Phe Ile Glu Ser Phe His Gly Lys Asn
                    325                     330                     335
Phe Ser Gly Asp Pro Lys Tyr Ile Ala Leu Ala Ile Lys Arg Gln Tyr
        340                     345                     350
Asp His Lys Lys Ile Tyr Val Ser Ser Thr Asn Ser Leu Val Asp Met
        355                     360                     365
Glu Ile Lys Arg Tyr Gly Phe Thr Pro Val Arg Phe Gly Ser Glu Lys
370                     375                     380
Tyr Ile Lys Thr Phe Arg Lys Cys Lys Tyr Val Phe Ile Asn Gly Asn
385                     390                     395                     400
Ser Trp Asp Lys Val Tyr Lys Ser Ser Asp Gln Ile Phe Val Gln Thr
                    405                     410                     415
Trp His Gly Phe Pro Leu Lys Lys Met Val Asn Asp Leu Asn Glu Gln
                    420                     425                     430
His Glu Arg Gln Gln Gln Leu Glu Ala Phe Ile Pro Arg Met Lys Lys
        435                     440                     445
Trp Asp Tyr Ile Leu Thr Ser Ser Asp Ile Asn Thr Thr Leu Leu Glu
        450                     455                     460
Ser Ala Phe Met Leu Asn Lys Asn Pro Asn Leu Lys Val Leu Glu Tyr
465                     470                     475                     480
Gly Ala Pro Lys Asn Glu Tyr Leu Ile Asn Asn Asn Leu Gln Glu
                    485                     490                     495
Arg Gln Gln Leu Gln Leu Lys Tyr Met Tyr Lys Ile Asp Asp Asp Lys
```

```
                500                    505                    510
Lys Tyr Ile Leu Tyr Cys Pro Thr Trp Arg Gly Asn Gln Arg Lys Glu
            515                    520                    525
Val Thr Gln Ile Asn Leu Lys Asp Leu Leu Lys Tyr Leu Pro Glu Asn
            530                    535                    540
Tyr Glu Ile Ile Val Lys Leu His Pro Asn Glu Ser His Leu Arg Thr
545                    550                    555                    560
Arg Tyr Asn Gln Ile Asp Asn Arg Ile His Cys Tyr Phe Asn Glu Leu
                565                    570                    575
Val Asp Ile Gln Glu Leu Tyr Ile Leu Ser Glu Cys Met Ile Thr Asp
            580                    585                    590
Tyr Ser Ser Thr Ile Phe Asp Tyr Ile His Leu Asn Lys Pro Val Phe
            595                    600                    605
Ile Leu Gln Glu Asp Glu Gln Gln Tyr Lys Gln Ser Val Gly Phe Tyr
        610                    615                    620
Phe Asp Leu Phe Glu Val Gly Asp Phe Leu Lys Ala Ser Leu Asn Glu
625                    630                    635                    640
His Met Leu Ala Lys Gln Ile Cys Ser Thr Asp Tyr Ile Asn Tyr Ser
                645                    650                    655
Lys Val Val His Arg Leu Met Lys Gln Asp Ser Ser Lys Ser Ser Glu
            660                    665                    670
Lys Leu Met Ala Glu Ile Leu Gly Glu Pro Glu Tyr Pro Ser Ser Ser
            675                    680                    685
Asn Cys Lys Gln Gln Ile Ser
    690                    695
```

```
<210> 4697
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4697
Val Lys Leu Tyr Ser Leu Tyr Ile Arg His Leu Val Asn Leu Val Tyr
1               5                   10                  15
Trp Tyr Leu Leu Asn Tyr Thr Lys Gly Leu Ile Phe Leu Ser Ile Leu
            20                  25                  30
Ala Arg Leu Leu Arg Glu Gln Asp Lys Leu Lys Thr Thr Gly
        35                  40                  45
```

```
<210> 4698
<211> 626
<212> PRT
<213> S.epidermidis

<400> 4698
Tyr Thr Leu Tyr Ile Ala Lys Gly Asp Glu Met Thr Thr Leu Glu Thr
1               5                   10                  15
Ser Leu Thr Arg Leu Ile Thr Lys Asp Pro Thr Ile Leu Asn Glu Asn
            20                  25                  30
Ala Asn Lys Asp Ser Asn Thr Phe Ser Thr Met Arg Asp Leu Thr Ala
        35                  40                  45
Gly Thr Val Ser Lys Ser Tyr Ala Leu Asp His Leu Leu Pro Lys His
    50                  55                  60
Val Ala His Ala His Gln Ser Gly Asp Ile His Phe His Asp Leu Asp
65                  70                  75                  80
Tyr His Pro Phe Gln Pro Leu Thr Asn Cys Cys Leu Ile Asp Ala Lys
```

```
                    85                      90                      95
Asp Met Leu Glu Asn Gly Phe Glu Ile Gly Asn Ala Asn Val Thr Thr
                100                     105                     110
Leu Gln Ser Ile Gln Thr Ala Ser Ala Gln Leu Val Gln Ile Ile Ala
                115                     120                     125
Asn Val Ser Ser Ser Gln Tyr Gly Gly Cys Thr Val Asp Arg Val Asp
            130                     135                     140
Glu Leu Leu Ser Lys Tyr Ala Gln Met Asn Ala Gln His His Arg Glu
145                     150                     155                     160
Val Ala Asn Asp Phe Val Gln Pro Asp Lys Ile Glu Asn Tyr Val Asp
                    165                     170                     175
Thr Gln Val Thr Lys Asp Ile Gly Asp Ala Ile Glu Ser Leu Glu Tyr
                180                     185                     190
Glu Ile Asn Thr Leu Tyr Thr Ser Asn Gly Gln Thr Pro Phe Val Thr
                195                     200                     205
Leu Gly Phe Gly Leu Gly Thr Asp Gln Leu Ser Arg Lys Ile Gln Gln
            210                     215                     220
Ala Ile Leu His Thr Arg Ile Lys Gly Leu Gly Lys Asp Arg Val Thr
225                     230                     235                     240
Ala Ile Phe Pro Lys Leu Val Phe Ser Ile Lys Lys Gly Ile Asn Phe
                    245                     250                     255
Gly Pro Glu Asp Pro Asn Tyr Asp Ile Lys Gln Leu Ala Leu Glu Cys
                260                     265                     270
Ser Thr Lys Arg Met Tyr Pro Asp Ile Leu Asn Tyr Asp Lys Leu Val
                275                     280                     285
Glu Leu Leu Gly Asp Phe Lys Ala Pro Met Gly Cys Arg Ser Phe Leu
                290                     295                     300
Pro Ser Trp Lys Asn Asp Glu Gly Gln Leu Glu Asn Asn Gly Arg Cys
305                     310                     315                     320
Asn Leu Gly Val Val Thr Leu Asn Val Pro Arg Ile Ala Ile Glu Ala
                    325                     330                     335
Asp Gly Asn Met Gln Gln Phe Trp Asp Ile Phe Glu Lys Arg Met Gln
                340                     345                     350
Leu Leu His Asp Ala Leu Val Tyr Arg Ile Glu Arg Leu Gln Asp Ala
                355                     360                     365
Ile Pro Asp Asn Ala Pro Ile Leu Tyr Lys Ser Gly Ala Phe Lys Asn
                370                     375                     380
Lys Leu Thr Ser Glu Asp Thr Val Asp Ser Leu Phe Thr Lys Gln Arg
385                     390                     395                     400
Ala Thr Ile Ser Met Gly Tyr Ile Gly Leu Tyr Glu Ala Ala Thr Leu
                    405                     410                     415
Phe Tyr Gly Pro Asn Trp Glu His Asn Pro Glu Ala Lys Thr Phe Thr
                420                     425                     430
Leu Asp Ile Leu Arg Glu Met Lys Arg Tyr Gln Val Glu Trp Thr Lys
                435                     440                     445
Gln Tyr Asp Ile Trp Phe Ser Ile Tyr Ser Thr Pro Ser Glu Ser Leu
                450                     455                     460
Thr Asp Arg Phe Cys Arg Leu Asp Lys Glu Lys Phe Gly Ser Ile Pro
465                     470                     475                     480
Asp Val Thr Asp Lys Gly Tyr Tyr Gln Asn Ser Phe His Tyr Asp Val
                    485                     490                     495
Arg Lys Asp Val Thr Pro Phe Glu Lys Leu Asp Phe Glu Lys Asp Tyr
                500                     505                     510
Pro Tyr Tyr Ala Ser Gly Gly Phe Ile His Tyr Cys Glu Tyr Pro Lys
                515                     520                     525
Leu Asn His Asn Leu Lys Ala Leu Glu Ala Val Trp Asp Tyr Ala Tyr
```

```
        530                      535                      540
Asp Lys Val Gly Tyr Leu Gly Thr Asn Ile Pro Ile Asp His Cys Tyr
545                  550                  555                  560
Arg Cys Gly Tyr Asp Gly Asp Phe Glu Thr Thr Ala Asn Gly Tyr Arg
                565  ,              570                  575
Cys Pro His Cys Gly Asn Thr Asp Pro Lys Thr Val Asp Val Val Lys
            580                  585                  590
Arg Thr Cys Gly Tyr Leu Gly Asn Pro Val Gln Arg Pro Val Ile Glu
        595                  600                  605
Gly Arg Gln Lys Glu Ile Cys Ala Arg Val Lys His Met Lys Ala Leu
        610                  615                  620
Arg Ser
625                     .                                    .
```

<210> 4699
<211> 560
<212> PRT
<213> S.epidermidis

<400> 4699

```
Tyr Asn Val Tyr Phe Asn Phe Asn Lys Glu Glu Phe Val Asn Met Lys
1               5                  10                  15
Asn Asn Trp Ile Asp Val Leu Asp Glu Ser Leu Val Lys Asp Phe Tyr
            20                  25                  30
Asn Asn Gln Thr Ser Glu Glu Gln Gln Glu Gly Leu Asn Thr Thr Leu
        35                  40                  45
Ser Phe Gly Thr Ala Gly Ile Arg Gly Lys Phe Gly Leu Gly Glu Gly
        50                  55                  60
Arg Leu Asn Lys Phe Thr Val Ser Lys Val Ala Leu Gly Phe Ala His
65                  70              ·   75                  80
Tyr Leu Thr Ser Ser Ile Ala His Pro Val Val Ile His Tyr Asp
                85                  90                  95
Thr Arg His Leu Ser Pro Glu Phe Ala Gln Ile Ile Ala Asn Ile Leu
            100                 105                 110
Ala Ser Leu Asp Ile Lys Val Tyr Leu Ala Asp Thr Tyr Arg Thr Thr
            115                 120                 125
Pro Asp Leu Ser Phe Ala Val Arg Tyr Leu Gln Ala Asp Ala Gly Val
        130                 135                 140
Met Ile Thr Ala Ser His Asn Pro Lys Asp Tyr Asn Gly Ile Lys Val
145                 150                 155                 160
Tyr Gly Glu Asp Gly Ala Gln Leu Ser Thr Asp Asp Ser Ala Arg Leu
                165                 170                 175
Ser Thr Tyr Ile Asp Lys Leu Gly His Pro Leu His Ile Asn Leu Pro
            180                 185                 190
Ser Leu Thr Thr Glu Gln Gln Ser Leu Ile His Ser Val Pro Ser Glu
        195                 200                 205
Val Arg Glu Asp Tyr Phe Lys Asn Val Gln Asp Leu Val Gly Thr Ile
        210                 215                 220
Pro Gln Ser Asp Leu Lys Val Val Phe Thr Ser Leu His Gly Thr Ser
225                 230                 235                 240
Val Pro Val Val Pro Asp Ile Leu Ser Ser Leu Asn Phe Asn Gln Phe
                245                 250                 255
Glu Leu Val Ala Ser Gln Cys Glu Pro Asp Ser Asp Phe Ser Ser Val
            260                 265                 270
Ala Ser Ala Asn Pro Glu Asp His Lys Ala Phe Asp Gln Ser Ile Glu
            275                 280                 285
```

```
Leu Ala Asn His Ile Asp Ala Asp Leu Leu Ile Gly Thr Asp Pro Asp
    290                 295                 300
Ala Asp Arg Leu Gly Ile Val Glu Arg Asp Ala Glu Gly Asn Ile His
305                 310                 315                 320
Tyr Tyr Asn Gly Asn Gln Ile Gly Ala Leu Leu Leu Asn Tyr Arg Ile
                325                 330                 335
Lys Gln Thr Glu Gly Leu Ser Asn Arg Ile Met Phe Gln Ser Ile Val
                340                 345                 350
Ser Gly Gly Leu Ala Lys Ser Leu Ala Gln Tyr His Asn Val Asn Phe
                355                 360                 365
Lys Glu Val Leu Thr Gly Phe Lys Tyr Ile Ala Ala Glu Ile Arg His
    370                 375                 380
Leu Ser Pro Glu Gln Asn Phe Ile Phe Gly Tyr Glu Glu Ser Tyr Gly
385                 390                 395                 400
Phe Leu Ala Arg Pro Phe Val Arg Asp Lys Asp Ala Ile Gln Ile Val
                405                 410                 415
Pro Leu Met Ile Lys Tyr Ala Ala Glu Leu Lys Asn Lys Gly Arg Met
                420                 425                 430
Leu Lys Asp Glu Leu Glu Asp Ile Thr Arg Asn Val Gly Asn Phe Asn
                435                 440                 445
Asp Lys Leu Phe Ser His Thr Phe Glu Gly Thr Gln Gly Lys Ala Lys
    450                 455                 460
Ile Glu Asn Ile Met Thr Gln Phe Arg Ser Glu Thr Pro Ser Glu Met
465                 470                 475                 480
Cys Gly Leu Lys Val Ile Ala Ile Glu Asp Phe Glu Thr Gly Lys Lys
                485                 490                 495
Thr Asp Leu Gln Asn Asp Glu Val Ser Asp Ile Thr Leu Pro Lys Ala
                500                 505                 510
Asn Val Ile Lys Ile Tyr Phe Asn Glu Gly Phe Ile Ala Leu Arg Pro
                515                 520                 525
Ser Gly Thr Glu Pro Lys Ile Lys Leu Tyr Val Ser Leu Ser Cys Asp
    530                 535                 540
His Phe Asp Val Val Ala Gln Lys Met Asn Asp Ala Ile Phe Asn Ser
545                 550                 555                 560
```

<210> 4700
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4700
```
Thr Thr Pro Tyr Leu Lys Cys Ile Tyr Phe Ile Asn Ser Asn His His
1               5                   10                  15
Lys His Ile Thr Lys Pro Arg Thr Gln Ile His Val Leu Gly Phe Val
                20                  25                  30
Asn His Ile Asp Asn Leu Tyr Leu Asn
        35                  40
```

<210> 4701
<211> 383
<212> PRT
<213> S.epidermidis

<400> 4701
```
Met Ser Pro Tyr Lys Val Ile Ile Ala Pro Asp Ser Phe Lys Glu Ser
1               5                   10                  15
```

Met Ser Ala Lys Glu Ala Ala Leu Ala Ile Lys Asp Gly Phe Gln Glu
            20   25   30
Val Phe Asp Ser Ser Thr Ile Tyr Asp Ile Ile Pro Met Ala Asp Gly
        35   40   45
Gly Glu Gly Thr Thr Glu Val Leu Lys Glu Ala Leu Asn Ala Thr Ser
    50   55   60
Tyr Cys Val Glu Val Lys Asp Pro Leu Asn Arg Asn Ile Met Ala Ser
65   70   75   80
Tyr Ala Arg Ser Asp Glu His Gln Thr Ala Ile Ile Glu Met Ala Ala
                85   90   95
Ala Ser Gly Leu Ala Leu Leu Ser Lys Asp Glu Arg Asp Pro Ser Ile
            100   105   110
Thr Thr Ser Tyr Gly Thr Gly Gln Leu Ile Asn Asp Ala Leu Asn His
        115   120   125
Asp Val Asn Lys Ile Ile Leu Gly Ile Gly Gly Ser Ala Thr Asn Asp
    130   135   140
Gly Gly Val Gly Met Leu Lys Ala Leu Gly Val Ser Phe Lys Asp Lys
145   150   155   160
Asn Asn Gln Glu Ile Arg Asp Gly Gly Leu Ala Leu Ser Gln Ile Glu
                165   170   175
Tyr Ile Asp Ile Thr Arg Ile Asn Pro Arg Leu Lys Asp Val Asn Ile
            180   185   190
Lys Val Ala Cys Asp Val Thr Asn Pro Leu Leu Gly Asp Asn Gly Ala
            195   200   205
Thr Ile Val Tyr Gly Pro Gln Lys Gly Ala Gln Gln Lys Met Ile Pro
    210   215   220
Lys Leu Asp Ser Ala Leu Arg His Tyr His Asp Lys Ile Glu Arg Glu
225   230   235   240
Leu Asn Met Asn Val Lys Asp Ile Pro Gly Ala Gly Ala Ala Gly Gly
                245   250   255
Met Gly Thr Ala Leu Ile Ala Phe Leu Asn Ala Glu Leu Arg Pro Gly
            260   265   270
Ile Asp Val Val Leu Glu Glu Thr Gln Phe Lys Gln Arg Ile Lys Asp
            275   280   285
Ala Asn Leu Val Val Thr Gly Glu Gly Lys Met Asp Lys Gln Thr Ile
    290   295   300
Tyr Gly Lys Thr Pro Ile Gly Val Ala Lys Val Ala Lys Ser Tyr Asp
305   310   315   320
Ile Pro Val Ile Ala Ile Cys Gly Ser Leu Gly Lys Asp Tyr Glu Val
                325   330   335
Ile Tyr His His Gly Ile Asp Ser Val Phe Ser Ile Met Glu Arg Pro
            340   345   350
Cys His Leu Asp Glu Ala Leu Lys Glu Gly Ala Leu His Val Lys His
        355   360   365
Thr Thr Thr Asn Phe Ala Arg Leu Leu Gln Leu Lys Ile Glu Asn
    370   375   380

<210> 4702
<211> 266
<212> PRT
<213> S.epidermidis

<400> 4702
Tyr Trp Thr Tyr His Phe Lys Glu Lys Gly Lys Met Val Ile Met Asp
1   5   10   15
Asp Leu Lys Gln Asn Gln Ser Ser Asn Glu Lys Pro Lys Gly Asn Lys

```
                20                        25                        30
Ile Ile Asn Ile Leu Ile Phe Ile Gly Met Ile Leu Leu Ile Gln Ile
            35                        40                        45
Pro Ile Gly Val Ser Leu Ile Ala Leu Pro Phe Ser Val Lys Phe Ser
        50                        55                        60
Lys Leu Thr Ser Ile Ala Leu Ser Met Leu Ile Thr Gly Thr Ala Leu
65                        70                        75                        80
Leu Ile Ile Trp Leu Val Arg Asn Tyr Tyr Leu Ser His Thr Tyr Glu
                85                        90                        95
Arg Gln Tyr Gln Ser Met Arg Gly Lys Asp Ile Phe Ile Asn Ile Gly
            100                       105                       110
Phe Leu Val Leu Ser Met Val Phe Ser Ile Leu Ser Ser Val Leu Met
            115                       120                       125
Val Ile Phe Thr Gly Asn Asp Thr Thr Ala Asn Glu Lys Glu Ile Asn
        130                       135                       140·
Glu Ser Leu Asp Leu Leu Leu Gln Lys Asp His Leu Pro His Ile Ser
145                       150                       155                       160
Ile Val Ala Thr Val Val Leu Met Ile Cys Ile Ile Gly Pro Tyr Leu
                165                       170                       175
Glu Glu Leu Leu Phe Arg Gly Ile Phe Lys Glu Thr Leu Phe Met Lys
            180                       185                       190
Tyr Arg Phe Trp Leu Pro Phe Ile Ile Ser Ser Ile Ile Phe Ser Ser
            195                       200                       205
Gln His Leu Ser Thr Asn Ile Phe Ser Tyr Ala Ile Tyr Phe Leu Met
        210                       215                       220
Gly Cys Val Leu Tyr Leu Ala Tyr Asn Arg Arg Arg Asn Ile Lys Asp
225                       230                       235                       240
Ser Met Met Val His Met Leu Asn Asn Ser Val Ser Thr Leu Pro Val
                245                       250                       255
Phe Val Gly Tyr Leu Trp Ile Tyr Phe Arg
            260                       265
```

```
<210> 4703
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4703
His Phe Gln Tyr Leu Asn Asn Ile Thr Glu Asn Phe Met Thr Phe His
1               5                        10                        15
Gln Ser Val Met Ile Tyr Ser Asn Phe Phe Thr Phe Leu Trp Leu Gly
            20                        25                        30
Ile Arg Ser Arg Phe Ile Ser Leu Leu Ile
        35                        40
```

```
<210> 4704
<211> 336
<212> PRT
<213> S.epidermidis

<400> 4704
Phe Gln Lys Tyr Thr Tyr Tyr Thr Asn Ile Asp Met Lys Gly Thr Val
1               5                        10                        15
Ser Arg Met Lys Asn Leu Lys Phe Leu Val Val Leu Val Leu Ser Val
            20                        25                        30
Val Ile Phe Ala Ala Ala Cys Gly Asn Ser Ser Ser Leu Asp Asn Asn
```

```
           35                          40                          45
Lys Ser Ser Asp Ser Gly Ser Asp Ser Lys Ser Gly Ser Tyr Thr Pro
      50                          55                          60
Lys Glu Leu Thr Val Gln Phe Val Pro Ser Gln Asn Ala Asp Thr Leu
65                          70                          75                          80
Glu Ala Lys Ala Lys Pro Leu Glu Lys Leu Leu Ser Asp Lys Leu Gly
                      85                          90                          95
Ile Pro Val Lys Val Ser Val Ser Thr Asn Tyr Asn Thr Ile Val Glu
                  100                         105                         110
Ala Met Lys Ser Lys Lys Val Asp Val Gly Phe Leu Pro Pro Thr Ala
              115                         120                         125
Tyr Thr Leu Ala His Asp Gln Lys Ala Ala Asp Leu Leu Leu Lys Ala
          130                         135                         140
Glu Arg Tyr Asp Val Asn Glu Asp Gly Ser Pro Ser Lys Lys Leu Val
145                         150                         155                         160
Asp Asp Tyr Lys Ser Glu Ile Leu Val Lys Lys Asp Ser Gly Ile Asn
                  165                         170                         175
Asn Leu Lys Asp Leu Lys Gly Lys Lys Ile Ala Leu Gln Asp Val Thr
              180                         185                         190
Ser Thr Ala Gly Tyr Thr Phe Pro Leu Val Thr Leu Lys Lys Glu Ala
          195                         200                         205
Gly Ile Asp Ala Thr Lys Asp Met Lys Ile Val Asn Val Lys Gly His
      210                         215                         220
Asp Gln Ala Val Ile Ser Leu Leu Asn Gly Asp Val Asp Ala Ala Ala
225                         230                         235                         240
Val Phe Asn Asp Ala Arg Thr Val Val Lys Lys Asp Gln Pro Asn Val
                  245                         250                         255
Phe Lys Asp Thr Lys Ile Leu Lys Leu Thr Lys Pro Ile Pro Asn Asp
              260                         265                         270
Thr Ile Ser Val Arg Pro Asp Met Asp Lys Lys Phe Gln Asp Lys Leu
          275                         280                         285
Lys Lys Ala Phe Lys Glu Ile Ser Lys Thr Lys Lys Gly His Lys Ile
      290                         295                         300
Ile Ser Glu Val Tyr Ser His Glu Gly Tyr Val Asp Thr Lys Asp Ser
305                         310                         315                         320
Asp Phe Asp Ile Val Arg Gln Tyr Glu Lys Ala Val His Asp Met Lys
                  325                         330                         335
```

```
<210> 4705
<211> 444
<212> PRT
<213> S.epidermidis

<400> 4705
Asn Met Lys Tyr Cys Ser Asn Cys Gly Gln Pro Leu Arg Glu Gly Val
1                   5                          10                          15
Lys Val Cys Thr Asn Cys Gly Thr Pro Val Arg Asn Asp Gly Pro Asn
              20                          25                          30
Tyr Lys His Ser Glu Gln Arg Tyr Ser His Gln Gln Pro Arg Ser Asn
          35                          40                          45
Lys Ser Asn Lys Lys Thr Trp Leu Ile Val Thr Ile Val Leu Ala Ile
      50                          55                          60
Ile Ile Ala Leu Val Val Ile Phe Thr Ile Ala Lys Asn Gln Met Ser
65                          70                          75                          80
Pro Glu Lys Gln Ala Thr His Ile Ala His Ala Ile Lys Lys Asp Asp
                      85                          90                          95
```

```
Ala Lys Ser Leu Ser Lys Gln Leu Thr Ser Asn Asp His Arg Leu Asn
            100                 105                 110
Glu Glu Glu Ala Arg Ala Tyr Leu Lys Tyr Ile Lys Ala Glu Ser Asp
            115                 120                 125
Leu Lys His Val Ala Asp Lys Val Glu Glu Asn Thr Lys Asp Ile Lys
            130                 135                 140
Asn Asn His Tyr Asn Asn Leu Ser Val Asp Ala Asn Asp Asn Asn Ile
145                 150                 155                 160
Leu Asn Ile Ser Lys Asp Gly Lys Lys Tyr Val Phe Phe Asp Asn Tyr
                165                 170                 175
Gln Phe Asn Val Pro Gln Lys Thr Ile Thr Ile Val Ser Ser Asp Ser
                180                 185                 190
Gly Glu Ile Thr Tyr Glu Phe Asn Gly Asp Lys His His Ile Ser Val
                195                 200                 205
Glu Glu Asp Asp Asp Lys Glu Leu Gly Thr Phe Pro Ile Gly Asp Tyr
            210                 215                 220
Asn Leu Lys Ala Ser Lys Asp Met Glu Gly Lys Asn Phe Lys Gly Ala
225                 230                 235                 240
Ile Thr Ile Asp Met Ser Glu Ser Asp Ser Ile Ala Tyr Glu Ser Phe
                245                 250                 255
Lys Gln Lys Arg Phe Asn Val Asp Thr Glu Gly Gly Tyr Ile Leu Asp
            260                 265                 270
Asn Val Lys Ile Tyr Ala Asn Gly Lys Glu Ile Gly Asp Gly Phe Ser
            275                 280                 285
Ser Glu Thr Tyr Gly Pro Tyr Asp Pro Asp Glu Glu Val Ile Val His
            290                 295                 300
Ala Glu Gly Ser Tyr Glu Gly Lys Thr Phe Lys Ser Asn Ser Val Asn
305                 310                 315                 320
Val Ala Ser Ala Ser Glu Lys Asp Gly Gly Val Thr Asp Val Thr Val
                325                 330                 335
Lys Phe Asp Glu Glu Ala Ile Asp Gln Tyr Val Asp Lys Lys Leu Asp
            340                 345                 350
Glu Lys Tyr Asp Asp Ser Asp Asp Glu Ser Asp Asn Asp Ser Ser Ser
            355                 360                 365
Gly Glu Val Thr Arg Glu Asn Val Ile Asp Lys Val Glu Ser Tyr Glu
            370                 375                 380
Gly His Thr Leu Asp Thr Asp Thr Tyr Thr Tyr Lys Glu Pro Glu Lys
385                 390                 395                 400
Thr Gly Asp Gly Lys Trp Gly Phe Ser Phe Leu Asp Lys Asp Gly Asp
                405                 410                 415
Leu Ala Gly Ser Tyr Thr Val Asp Ile Asp Asp Gly Tyr Val Thr Glu
                420                 425                 430
Tyr Asp Glu Asp Gly Glu Glu Val Gly Ser Gly Tyr
            435                 440
```

<210> 4706
<211> 514
<212> PRT
<213> S.epidermidis

<400> 4706
```
Asn Met Lys Tyr Met Ile Gly Val Asp Met Gly Thr Thr Ser Thr Lys
1               5                   10                  15
Ala Val Leu Tyr Asp Glu Asn Gly Lys Phe Ile Met Lys His Asn Ile
            20                  25                  30
Gly Tyr Asp Leu His Thr Pro Asn Val Asp Val Ser Glu Glu Asn Pro
```

```
                35                      40                      45
Asp Glu Ile Phe Asp Ala Val Leu Met Thr Val Lys Tyr Ile Val Arg
        50                      55                      60
Glu Ser Gly Ile Ala Lys Glu Asp Ile Lys Phe Ile Ser Leu Ser Ala
65                       70                      75                      80
Gln Met His Ser Leu Ile Ala Met Asn Glu Asp Asn Gln Arg Leu Thr
                85                      90                      95
Glu Asn Ile Thr Trp Ala Asp Asn Arg Ala Asn Asp Tyr Ala Asp Leu
                100                     105                     110
Ile Glu Lys Ser Tyr Gly Gly Phe Glu Leu Tyr Gln Arg Thr Gly Thr
        115                     120                     125
Pro Ile His Pro Met Ser Pro Leu Ser Lys Ile Phe Trp Met Arg His
        130                     135                     140
Glu Glu Pro Lys Ile Phe Lys Gln Thr Ala Met Phe Ala Asp Leu Lys
145                     150                     155                     160
Thr Tyr Val Leu Phe Gln Leu Tyr Glu Arg Phe Val Ile Asp Tyr Ser
                165                     170                     175
Leu Gly Ser Ala Thr Gly Met Met Asn Leu Glu Gln Leu Asp Trp Asp
                180                     185                     190
Asn Lys Ala Leu Glu Leu Leu Gly Ile Glu Arg Asn Gln Leu Pro Gln
        195                     200                     205
Leu Val Pro Thr Thr His Val Leu Thr Gly Met Lys Lys Arg Tyr Ala
        210                     215                     220
Thr Leu Met Gly Ile Asp Glu Gln Thr Pro Val Ile Val Gly Ala Ser
225                     230                     235                     240
Asp Gly Val Leu Ser Asn Leu Gly Val Asn Ser Tyr Gln Lys Gly Glu
                245                     250                     255
Val Ala Val Thr Ile Gly Thr Ser Gly Ala Ile Arg Thr Val Ile Asn
                260                     265                     270
Gln Pro Lys Thr Asp Glu Lys Gly Arg Ile Phe Cys Tyr Ile Leu Asp
        275                     280                     285
Lys Asp Gln Tyr Val Ile Gly Gly Pro Val Asn Asn Gly Gly Val Val
        290                     295                     300
Leu Arg Trp Leu Arg Asp Glu Ile Leu Ala Ser Glu Val Glu Thr Ala
305                     310                     315                     320
Lys Arg Leu Gly Val Asp Pro Tyr Asp Val Leu Thr Gln Ile Ala Ser
                325                     330                     335
Arg Val Lys Pro Gly Ala Glu Gly Leu Ile Phe His Pro Tyr Leu Ala
        340                     345                     350
Gly Glu Arg Ala Pro Leu Trp Asn Ala Asp Ala Arg Gly Ser Phe Phe
        355                     360                     365
Gly Leu Thr Leu Ser His Lys Lys Glu His Met Ile Arg Ala Ala Leu
        370                     375                     380
Glu Gly Val Leu Tyr Asn Leu Tyr Thr Val Tyr Leu Ala Leu Ile Glu
385                     390                     395                     400
Val Met Asn Glu Thr Pro Thr Thr Ile Lys Ala Thr Gly Gly Phe Ala
                405                     410                     415
Lys Ser Glu Ile Trp Arg Gln Met Met Ala Asp Ile Phe Asp Thr Asp
                420                     425                     430
Leu Ile Val Pro Glu Ser Tyr Glu Ser Ser Cys Leu Gly Ala Cys Val
                435                     440                     445
Leu Gly Met Lys Ala Leu Gly Glu Ile Asp Asp Phe Ser Val Ile Lys
        450                     455                     460
Asp Met Val Gly Thr Thr His Ala His Glu Pro Asn Gln Glu Thr Val
465                     470                     475                     480
Ala Ile Tyr Gln Gln Leu Val Thr Ile Phe Ile Asn Ile Ser Arg Ser
```

```
                    485                  490                  495
Met Thr Glu Asn Tyr Ser Asp Ile Ala Asn Phe Gln Arg Glu His Leu
            500                  505                  510
Ser Asp
```

<210> 4707
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4707
```
Gly Phe Glu Tyr Ile Val Ile Tyr Thr Tyr Phe Tyr Leu Leu Ile Leu
1               5                   10                  15
Lys Asn Glu Phe Ser Leu Ile Ile Tyr Gln Leu Lys Lys Arg Tyr Glu
            20                  25                  30
Ile Tyr Phe Val Leu Asn Phe Ser Leu Pro Tyr Gln Arg Ile
        35                  40              .   45
```

<210> 4708
<211> 212
<212> PRT
<213> S.epidermidis

<400> 4708
```
Arg Arg Glu Tyr Val Leu Ile Val Leu Gly Lys Gly Glu Thr Met Lys
1               5                   10                  15
Lys Leu Ile Gly Leu Leu Met Ile Leu Cys Met Val Leu Leu Tyr Ser
            20                  25                  30
Cys Ser Gly Pro Met Asp Ser Pro Lys His Ser Asn Asn Ser Lys Pro
            35                  40                  45
Val Val Val Ile Tyr Gly Asp Tyr Lys Cys Pro Tyr Cys Lys Lys Thr
        50                  55                  60
Glu Asp Arg Val Met Pro Lys Leu Lys Lys Lys Tyr Ile Asp Thr Asn
65                  70                  75                  80
Lys Ile Lys Tyr Gln Tyr Val Asn Leu Ala Phe Leu Gly Lys Asp Ser
            85                  90                  95
Ile Val Gly Ser Arg Ala Gln His Ala Val Asn His Tyr Ala Pro Lys
            100                 105                 110
Lys Ser Leu Glu Phe Gln Lys Leu Met Phe Asn Gln Gln Lys Asp Glu
            115                 120                 125
His Lys Gln Trp Ile Thr Thr Arg Leu Val Asp Lys Gln Ile Asp Lys
            130                 135                 140
Leu Ser Ile Ser Asp Asp Lys Lys Lys Ile Lys Thr Asp Tyr Lys
145                 150                 155                 160
Thr Lys Gly Ser Ile Ser Trp Lys Lys Ala Lys Glu Asp Gln Gln Ile
            165                 170                 175
Ala Lys Lys Asn His Ile Lys Gln Thr Pro Thr Ala Phe Val Asn Asp
            180                 185                 190
Asn Lys Val Glu Asp Pro Tyr Asp Phe Ser Ser Tyr Glu Met Leu Leu
            195                 200                 205
Glu Asn Glu Lys
        210
```

<210> 4709
<211> 518

<212> PRT
<213> S.epidermidis

<400> 4709
Gly Arg Arg Tyr Gly His Ser Phe Pro Ile Asn Lys Glu Val Leu Asp
1   5   10   15
Met Thr Ile Tyr Asn Ile Asn Phe Gly Ile Gly Trp Ala Ser Ser Gly
            20   25   30
Val Glu Tyr Ala Gln Val Tyr Arg Ala Lys Leu Leu Arg Gln Leu Pro
        35   40   45
Tyr Pro Thr Lys Phe Ile Phe Leu Asp Phe Ile Gln Ser Glu Asn Ile
    50   55   60
Gln Thr Leu Thr Ser Asn Ile Gly Phe Lys Asp Asp Glu Val Ile Trp
65   70   75   80
Leu Tyr Gln Tyr Phe Thr Asp Val Lys Ile Ala Pro Thr Thr Tyr Thr
                85   90   95
Val Asp Asp Leu Ile Ser Glu Leu Gly Asn Glu Val Thr Arg Lys Glu
            100   105   110
Gln Asn Gly Lys Val Leu Arg Leu Tyr Leu Asn Asn Gln Gln Thr Phe
            115   120   125
Val Thr Cys Tyr Leu Lys Asn Ala Asn Glu His Tyr Val Asp Arg Ala
    130   135   140
Glu Phe Val Val Asn Gly Met Leu Ile Arg Lys Asp Phe Tyr Ser Tyr
145   150   155   160
Val Arg Thr Phe Ser Glu Tyr Tyr Ala Pro Phe Asp Asn Lys Ala Lys
                165   170   175
Ile Tyr Met Arg Gln Phe Tyr Asn Glu Asn Gly Ser Ile Ala Tyr Arg
                180   185   190
Glu Tyr Ile Asp Glu Asp Glu His Val Phe Val Phe Asp Asp Ala Arg
            195   200   205
Leu Tyr Ser Lys Gln Ala Leu Val Ala Tyr Phe Ile Arg Gln Leu Arg
    210   215   220
Leu Asn Ser Glu Asp Ile Ile Ile Ile Asp Arg Ala Thr Asp Val Gly
225   230   235   240
Gln Ala Ile Leu Glu Asn Lys Gly Ser Ser Lys Val Gly Val Val Val
                245   250   255
His Ala Glu His Phe Ser Glu Gly Ala Thr Asp Gly Thr His Ile Leu
            260   265   270
Trp Asn Asn Tyr Tyr Glu Tyr Gln Phe Glu Asn Ala Gln His Ile Asp
            275   280   285
Phe Phe Ile Thr Ala Thr Asp Leu Gln Arg Gln Thr Leu Ser Glu Gln
    290   295   300
Phe Lys Gln Tyr Lys Asn Asp Cys Pro Arg Ile Arg Thr Ile Pro Val
305   310   315   320
Gly Ser Ile Glu Ser Leu Gln Tyr Pro Glu Lys Glu Arg Lys Pro Tyr
                325   330   335
Ser Ile Met Thr Ala Ser Arg Leu Ala Asn Glu Lys His Val Asp Trp
            340   345   350
Ile Val Glu Ala Val Ile Lys Ala Lys His Gln Leu Pro Gln Leu Ser
        355   360   365
Phe Asp Ile Tyr Gly Gln Gly Glu Glu Gln Glu Lys Ile Lys Asn Ile
    370   375   380
Ile Thr Lys His Arg Ala Glu Asp Tyr Ile Gln Ile Lys Gly His Arg
385   390   395   400
Asn Leu Arg Thr Ile Tyr Gln Gln Tyr Glu Leu Phe Ile Ala Ala Ser
                405   410   415

```
Gln Ser Glu Gly Phe Gly Leu Thr Leu Met Glu Ala Val Gly Ser Gly
            420                     425                 430
Leu Gly Met Ile Gly Phe Asp Val Asn Tyr Gly Ser Pro Thr Phe Ile
            435                 440                 445
Arg His His Gln Asn Gly Tyr Leu Ile Pro Ile Asp Phe Glu Gln Ala
        450                 455                 460
Ser Thr Asp Asp Ile Thr Thr Gln Ile Ala His Met Ile Ile Arg Tyr
465                 470                 475                 480
Phe Glu Asp Gly Pro Ile Arg Ala His Glu Val Ser Tyr Asp Ile Ala
                485                 490                 495
Glu Ser Phe Lys Thr Ser His Ile Val Asp Leu Trp Arg Gln Leu Ile
            500                 505                 510
Glu Glu Val Leu Tyr Asp
            515
```

<210> 4710
<211> 512
<212> PRT
<213> S.epidermidis

<400> 4710
```
Lys Leu Thr Leu Ser Gln Ser Leu Ser Ser Ile Leu Asp Leu Ser Tyr
1               5                   10                  15
Ile Leu Gly Gly Asn Leu Phe Met Lys Phe Met Asn Lys Met Gly Lys
            20                  25                  30
Thr Thr Leu Ala Ser Ser Ile Val Ala Ala Ser Val Leu Ser Thr Val
            35                  40                  45
Asn Val Ser Tyr Ala Ser Gly Ser Ser Glu Gln Ser Ala Gln Thr Lys
        50                  55                  60
Gln Thr Gln Asn Asp Ala Ile Ala Phe Gly Asn Thr Lys Asn Pro Lys
65                  70                  75                  80
Asn Val Ile Phe Met Val Gly Asp Gly Met Gly Pro Ser Phe Asn Thr
                85                  90                  95
Ala Tyr Arg Tyr Tyr Lys Asn Lys Pro Gly Ala Lys Lys Met Thr Pro
            100                 105                 110
Thr Ala Phe Asp Lys Tyr Leu Lys Gly Thr Asn Arg Thr Tyr Ser Asn
            115                 120                 125
Asp Pro Lys Glu Asn Val Thr Asp Ser Ala Ala Gly Gly Thr Ala Phe
        130                 135                 140
Ser Thr Gly His Lys Thr Tyr Asn Gly Ala Ile Ser Val Asp Thr Asn
145                 150                 155                 160
Lys Lys Pro Ile Lys Ser Val Leu Glu Gln Ala Lys Glu Gln Gly Lys
                165                 170                 175
Ser Thr Gly Leu Val Thr Thr Ala Glu Leu Thr Asp Ala Thr Pro Ala
            180                 185                 190
Val Tyr Ala Ala His Ile Asp Ser Arg Asp Lys Lys Asp Glu Ile Ala
            195                 200                 205
Gln Gln Phe Tyr Asn Asp Lys Ile Asn Gly Lys His Lys Val Asp Val
        210                 215                 220
Met Leu Gly Gly Gly Ala Lys Tyr Phe Gly Lys Glu Asn Lys Asn Leu
225                 230                 235                 240
Ala Lys Lys Phe Lys Lys Asp Gly Tyr Asp Ile Val Ser Asn Lys Asp
                245                 250                 255
Glu Leu Asn Gln Ser Gln Ser Lys Gln Val Leu Gly Thr Phe Ser Glu
            260                 265                 270
Lys Asp Met Pro Leu Gln Ile Asp Ala Pro Gln Ser Asn Pro Leu Leu
```

```
                275                      280                      285
     Val Asp Met Gln Asn Ser Ala Leu Asn Lys Leu Ser Lys Asn Asn Lys
            290                      295                      300
     Gly Phe Phe Leu Met Val Glu Gly Ala Ser Ile Asp Lys Ala Ala His
     305                      310                      315                      320
     Pro Asn Asp Ile Thr Gly Val Met Ser Glu Met Ser Gly Phe Glu Thr
                        325                      330                      335
     Ala Phe Asp Asn Ala Ile Asn Tyr Ala Lys Thr His Lys Asp Thr Leu
                        340                      345                      350
     Val Val Ala Thr Ala Asp His Ser Thr Gly Gly Leu Ser Thr Ala Lys
                355                      360                      365
     Gly Lys Asp Tyr Lys Trp Asn Pro Glu Ala Ile His Lys Met Lys His
            370                      375                      380
     Ser Gly Met Tyr Met Thr Lys Gln Ile Ala Asp Gly Lys Asp Pro Glu
     385                        390                      395                      400
     Lys Val Ile Lys Asp Gly Tyr Gly Ile Asp Phe Pro Asn Lys Gln Leu
                        405                      410                      415
     Asp Lys Val Lys Lys Ala Ala Asp Glu Leu His Lys Leu Gln Lys Glu
                420                      425                      430
     Gly Lys Asp Asp Lys Asp Glu Lys Val Val Glu Gln Thr Thr Lys Leu
                435                      440                      445
     Gln Asn Ala Ile Gln Lys Pro Ile Asn Asp Ala Ser His Thr Gly Trp
            450                      455                      460
     Thr Thr Asn Gly His Thr Gly Val Asp Val Asn Thr Tyr Ala Tyr Gly
     465                      470                      475                      480
     Pro Gly Ser Asn Lys Phe Lys Gly Asn Met Glu Asn Thr Gln Ser Ala
                        485                      490                      495
     Lys Asn Leu Phe Asp Phe Phe Gly Asp Asn Val Thr Ser Asn Gln Asn
                500                      505                      510


<210> 4711
<211> 227
<212> PRT
<213> S.epidermidis

<400> 4711
     Asn Val Thr Tyr Gly Tyr Pro Lys Lys Trp Lys Glu Asn Met Thr Ser
     1                      5                        10                       15
     Gly Gln Val Ile Ala Ala Glu Leu Arg Leu Gly Ile Val Ser Gly Glu
                20                       25                       30
     Ile Glu Ser His Ile Gln Leu Ser Glu Asn Gln Val Ala Gln Gln Phe
            35                       40                       45
     Asn Val Ser Arg Ser Pro Val Arg Asp Ala Phe Lys Leu Leu Gln Thr
            50                       55                       60
     Asp Gln Leu Ile Gln Leu Glu Arg Met Gly Ala Gln Val Leu Pro Phe
     65                       70                       75                       80
     Gly Asp Gln Glu Lys Lys Glu Met Tyr Asp Leu Arg Leu Met Leu Glu
                        85                       90                       95
     Ser Phe Ala Phe Ser Lys Leu Ser Gly Thr Asp Thr Gln His Ile Val
                100                      105                      110
     Lys Glu Met Lys Lys Gln Leu Glu Met Met Lys Val Ala Val Gln Phe
                115                      120                      125
     Glu Asp Ala Glu Ala Phe Thr Gln His Asp Phe Glu Phe His Glu Val
            130                      135                      140
     Met Ile Gln Ala Thr Asn His Gln Tyr Leu Lys Val Phe Trp Asn His
     145                      150                      155                      160
```

```
Leu Lys Pro Val Met Glu Ser Leu Ile Leu Ile Ser Met Arg Gln Arg
                165                 170                 175
Met Thr Asn Asp Pro Lys Asp Phe Glu Arg Ile His Ser Asn His Gln
            180                 185                 190
Val Phe Ile Asp Ala Val Glu Asn Asp Asp Ala Ser Ile Leu Arg Lys
        195                 200                 205
Ala Phe His Leu Asn Phe Asp Asp Val Gly Glu Asn Ile Glu Ala Phe
    210                 215                 220
Trp Leu Arg
225
```

<210> 4712
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4712

```
Leu Asp Lys Tyr Met Thr Thr Lys Ser Asn Phe Arg Leu Ser Leu Ala
1               5                   10                  15
Ser Leu Asp Met Ile Gln Val Ile Asn Tyr Leu Ile Ile Arg Val Lys
            20                  25                  30
Lys Cys Leu Arg Asn Ser Asn Ile Lys Ser Tyr Ile Lys Glu Tyr Phe
        35                  40                  45
Leu His Ala
    50
```

<210> 4713
<211> 73
<212> PRT
<213> S.epidermidis

<400> 4713

```
Tyr Lys Asp Leu Leu Arg His Ile Leu Asn Ser Ala Ile Asn Phe Gln
1               5                   10                  15
Tyr Thr Lys His Leu Arg Gln Ile Ser Met Ser Gln Ala Gln Leu Phe
            20                  25                  30
Lys Tyr Lys His Leu Leu Glu Lys His Thr Ser Ile Tyr Val Leu Val
        35                  40                  45
Ile Leu Ile Phe Lys Leu Trp Ser Glu Asn Tyr Trp Cys Thr Leu Met
    50                  55                  60
Lys Phe Thr Cys Ile Cys Thr Ile His
65                  70
```

<210> 4714
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4714

```
Phe Phe His Leu Asn Asn Thr Pro Phe Lys Asp Ala Val Leu Glu Gln
1               5                   10                  15
Thr Lys Cys Ser Ile Val Ser Tyr Tyr Tyr Thr Arg Phe Ile Val Val
            20                  25                  30
Phe Lys Asn Leu Asn Phe Lys Leu Ser
        35                  40
```

<210> 4715
<211> 398
<212> PRT
<213> S.epidermidis

<400> 4715
Lys Gly His Leu Val Val Met Thr Val Ala Arg Thr Thr Thr Phe Ile
1   5   10   15
Leu Ser Val Phe Ile Val Gly Met Val Glu Met Met Val Ala Gly Ile
            20   25   30
Met Asn Leu Met Ser Gln Asp Leu His Val Ser Glu Ala Val Val Gly
        35   40   45
Gln Leu Val Thr Leu Tyr Ala Leu Thr Phe Ala Ile Cys Gly Pro Leu
    50   55   60
Leu Val Lys Leu Thr His Arg Phe Ser Ser Arg Ser Val Leu Leu Trp
65   70   75   80
Thr Leu Ile Val Phe Ile Phe Gly Asn Gly Met Ile Ala Ile Ala Pro
                85   90   95
His Phe Gly Ile Ile Val Val Gly Arg Ile Leu Ser Ser Ala Ala Ala
            100   105   110
Ser Leu Ile Ile Val Lys Val Leu Ala Leu Thr Ala Met Leu Thr Ser
            115   120   125
Ala Lys Asn Arg Gly Lys Met Ile Gly Ile Val Tyr Thr Gly Phe Ser
    130   135   140
Gly Ala Asn Val Phe Gly Val Pro Ile Gly Thr Val Ile Gly Asp Trp
145   150   155   160
Val Gly Trp Arg Phe Thr Phe Leu Phe Ile Ile Ile Val Ser Val Phe
                165   170   175
Val Gly Val Leu Met Leu Ile Tyr Leu Pro Lys Glu Asp Glu Leu Ser
            180   185   190
His Pro Asn Gln Thr Pro Arg Ser Ser Ser Ile Glu Ser Gln Thr Gly
            195   200   205
Ser Ser Val Ile Arg Pro Arg Glu Val Phe Lys Tyr Leu Met Ile Thr
    210   215   220
Phe Leu Val Leu Val Ala Asn Ser Val Thr Phe Val Phe Ile Asn Pro
225   230   235   240
Leu Ile Leu Ser Asn Gly His Glu Met Ser Phe Val Ser Leu Ala Leu
                245   250   255
Leu Val Asn Gly Val Ala Gly Val Ile Gly Thr Ser Leu Gly Gly Val
            260   265   270
Leu Ser Asp Lys Phe Thr Ser Lys Arg Trp Leu Ile Ile Ser Ile Ser
            275   280   285
Ile Phe Ile Ile Met Met Ile Ile Leu Asn Leu Leu Leu Pro Gly Thr
    290   295   300
Gly Leu Leu Leu Val Gly Leu Phe Met Trp Asn Leu Met Gln Trp Ser
305   310   315   320
Thr Asn Pro Ala Ile Gln Ser Gly Ile Ile Glu His Val Glu Gly Asp
            325   330   335
Thr Ser Gln Val Met Ser Trp Asn Met Ser Ser Leu Asn Ala Gly Ile
            340   345   350
Gly Val Gly Gly Ile Val Gly Gly Leu Val Met Thr His Leu Ser Val
    355   360   365
Glu Tyr Val Thr Tyr Thr Ser Ala Leu Ile Gly Leu Ile Ser Leu Ile
    370   375   380
Ile Val Phe Thr Leu Lys Asn Arg His Tyr Ala Lys Asn Leu
385   390   395

```
<210> 4716
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4716
Leu Lys Asp Phe Tyr Ile Trp Val Val Asp Ser Gly Leu Lys Tyr Asp
1               5                   10                  15
Phe Ile Lys Phe Val Ser Ile Phe Met Leu Leu Val Arg Gly Asp Asn
            20                  25                  30
Val Phe Lys Met Phe Tyr Glu Thr Val Val
            35                  40


<210> 4717
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4717
Val Lys Asn Leu Leu Met Val Phe Ile Gly Ala Leu Ser Ile Phe Ile
1               5                   10                  15
Leu Lys Leu Asn Glu Ser Glu Ala Gly Thr Lys Arg Phe Lys Ile Ser
            20                  25                  30
Lys Lys Arg Gln Phe Leu Leu Lys
            35                  40


<210> 4718
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4718
Met Leu Phe His Gly Lys Arg His Phe Leu Ser Phe Asn Phe Tyr Lys
1               5                   10                  15
Asp Ile Phe Asn Thr Arg Ile Thr Arg Glu Leu Tyr Gly Cys Leu Asn
            20                  25                  30
Cys Leu Tyr Tyr Arg Ile Leu Lys Arg Tyr
            35                  40


<210> 4719
<211> 65
<212> PRT
<213> S.epidermidis

<400> 4719
Thr Phe Ile His Ile Val Asn Ile Asp Glu Asn Ile Asn Asp Met Asn
1               5                   10                  15
Lys Arg Ser Ser Ile Asn Cys Asn Asn Tyr Phe Leu Ser Lys Leu Lys
            20                  25                  30
Ser Arg Cys Lys Val Ala Ile Ser His Leu Pro His Ser Arg Thr Leu
            35                  40                  45
Gln Arg His Val Ile Tyr Lys Leu Lys His Phe Arg Asn Asn Phe Leu
        50                  55                  60
Phe
65
```

<210> 4720
<211> 136
<212> PRT
<213> S.epidermidis

<400> 4720
Asn His Ile His Tyr Gln Glu Ala Pro Asn Leu Thr Lys Val Glu Tyr
1   5   10   15
Gly Asp His Tyr Glu Arg Arg Phe Met Lys Pro Lys Lys Leu Lys Ala
            20   25   30
Asn Ile Glu Tyr Thr Thr Pro His Gly His Val Tyr Arg Thr Asp His
        35   40   45
Lys Gly Arg Ile Lys Glu Val Tyr Ala Asp Asp Leu Ser Leu Leu Asp
    50   55   60
Gly Gly Arg Asn Ser Tyr Ala Gln Arg Thr Val Gly Arg Glu Tyr Arg
65   70   75   80
Leu Pro Asp Asp Asp Gly Gly His Leu Ile Ala Arg Gly Phe Gly Gly
                85   90   95
Ser Lys Asp Ile Asp Asn Leu Val Pro Gln Ser Lys Tyr Ile Asn Arg
            100   105   110
Ser Phe Lys Glu Asn Gly Glu Trp Tyr Asn Met Lys Lys Glu Trp Gln
        115   120   125
Lys Ala Ile Lys Lys Gly Glu Lys
    130   135

<210> 4721
<211> 56
<212> PRT
<213> S.epidermidis

<400> 4721
Ile Lys Ile His Asn His Tyr Ile Ala Val Gly Phe Gly Ile Glu Ala
1   5   10   15
Ile Ser Asn Ile Val Lys Thr Tyr Ser Tyr Ile Glu Ile Val Phe Asn
            20   25   30
Ile Lys Asn Asn Tyr Leu Cys His Ser His Tyr Arg Leu Ile Tyr Lys
        35   40   45
Ile Asn Leu Leu Phe Ser Phe Ile
    50   55

<210> 4722
<211> 78
<212> PRT
<213> S.epidermidis

<400> 4722
Leu Tyr Ser His Phe Ile Lys Ile Tyr Ile Lys Cys His Tyr Ser Tyr
1   5   10   15
Thr Thr Thr Leu Leu Phe Ile Tyr Glu Asn His His Ile Leu Tyr Arg
            20   25   30
Ser Asn Asp Gly Phe Ile Gly Tyr Leu Ile Glu Ser Asn Ser His Phe
        35   40   45
Asp Thr Ile Leu Lys Cys Leu Ile Phe Lys Leu Gln Ser Leu Ser Phe
    50   55   60
Phe Tyr Ile Asn Ser Asn Thr Phe Lys Leu Thr Lys Ile Asp

```
<210> 4723
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4723
Gln His Pro Gln Leu Cys Lys Ile Ile Phe Gly Asp Leu Gln Asn Ser
1               5                   10                  15
Glu Lys Pro Glu His Asp His Gly His Ala Ala Glu His His Leu Met
            20                  25                  30
Thr Glu Glu Leu Thr Ala His Leu
        35                  40


<210> 4724
<211> 675
<212> PRT
<213> S.epidermidis

<400> 4724
Cys Thr Thr His Asn Ile Arg Gly Val Val Ile Met Thr Gln Ser Tyr
1               5                   10                  15
Cys Ile Leu Gly Asn Pro Asn Val Gly Lys Thr Ser Leu Phe Asn Ala
            20                  25                  30
Leu Thr Gly Ser Tyr Glu Tyr Ile Gly Asn Trp Ser Gly Val Thr Val
        35                  40                  45
Glu Lys Lys Val Gly Lys Leu Lys Asp Asn Val Gly Asp Leu Val Asp
    50                  55                  60
Leu Pro Gly Ile Tyr Asp Leu Ser Pro Ile Ser Lys Asp Glu Thr Val
65                  70                  75                  80
Val Thr Asp Tyr Leu Met Ser Thr Ser Phe Thr Gly Met Ile Asn Ile
                85                  90                  95
Ile Asp Ala Cys Gln Leu Lys Arg Asn Leu Asn Leu Thr Ile Gln Leu
            100                 105                 110
Met Glu Leu Asn Lys Pro Met Ile Ile Gly Leu Asn Met Ile Asp Val
        115                 120                 125
Ala Thr Gln Arg Gly Ile Lys Ile Asn Tyr Gln Ala Leu Met Arg Lys
        130                 135                 140
Leu Lys Val Pro Val Phe Pro Ile Val Ala Arg Lys Ala Lys Gly Thr
145                 150                 155                 160
His Ser Leu Leu Gly Glu Leu Asn Tyr Leu Glu Pro His Gln Arg Arg
                165                 170                 175
Ala Phe Lys Ile Asn Tyr Gly Thr Glu Ile Glu Thr Ala Ile Gln Gln
            180                 185                 190
Ile Cys Ser Ile Ile Lys Gln Asp Asn Met Tyr Pro Thr Glu Arg Leu
        195                 200                 205
Arg Phe Ile Ala Ile Gln Tyr Leu Ile Asp Asn Val Gln Ile Tyr Gln
        210                 215                 220
Glu Leu Asp Ala Met Ile Leu Glu Gln Leu Glu Pro Ile Lys Arg Lys
225                 230                 235                 240
Leu Ser Asn Ala Thr Glu Gln Ser Thr Arg Gln Arg Ile Glu Ala Val
                245                 250                 255
Arg Asn Asp Tyr Ile Asn Gln Leu Leu Glu Asp Ile Val Glu Tyr Pro
            260                 265                 270
Glu Glu Asp Lys Gln Phe Phe Thr Ser Lys Val Asp Arg Leu Leu Leu'
```

```
              275                   280                   285
Asn Arg Tyr Leu Gly Ile Pro Ile Phe Leu Gly Ile Met Trp Leu Ile
          290                   295                   300
Phe Gln Thr Thr Phe Thr Trp Ile Gly Thr Pro Leu Ser Asp Gln Leu
305                   310                   315                   320
Asp Ala Phe Ile Ser Gly Pro Leu Ser Glu Trp Ile Lys Ser Val Met
              325                   330                   335
Asn Thr Leu His Ile Thr Ser Phe Leu Gln Asp Leu Ile Thr Asp Gly
              340                   345                   350
Ile Ile Ala Gly Val Gly Ser Val Leu Val Phe Val Pro Gln Ile Val
          355                   360                   365
Val Leu Phe Phe Phe Ile Ser Leu Leu Glu Asp Ser Gly Tyr Met Ala
          370                   375                   380
Arg Ile Ala Val Leu Met Asp Lys Thr Met Glu Ser Ile Gly Leu Ser
385                   390                   395                   400
Gly Lys Ser Phe Ile Pro Met Ile Ile Gly Phe Gly Cys Asn Val Pro
              405                   410                   415
Ser Ile Met Ala Ala Arg Ser Ile Glu Asn Glu Lys Glu Arg Leu Ile
              420                   425                   430
Thr Ile Leu Val Ala Pro Phe Met Ser Cys Ser Ala Arg Leu Pro Val
              435                   440                   445
Tyr Ala Leu Phe Val Gly Ala Phe Phe Ser Ala His Gln Ser Leu Val
          450                   455                   460
Val Leu Ser Leu Tyr Ile Leu Gly Ile Val Val Ala Leu Leu Val Ser
465                   470                   475                   480
Thr Leu Leu Asn Lys Leu Ile Leu Lys Asp Asn Gln Ser Val Phe Ile
              485                   490                   495
Val Glu Leu Pro Thr Tyr Arg Val Pro Ser Phe Lys Thr Leu Trp Arg
          500                   505                   510
Ser Thr Trp Glu Lys Ala Lys Gly Phe Val Lys Lys Ala Gly Thr Phe
          515                   520                   525
Ile Phe Gly Gly Ser Val Val Ile Trp Thr Leu Thr Tyr Ile Gly Pro
          530                   535                   540
His Gly Val Asn Val Pro Ile Asn Gln Ser Phe Met His Met Ile Gly
545                   550                   555                   560
Gln Gly Phe Ala Asn Leu Ile Ala Pro Leu Gly Phe Gly Ser Trp Gln
              565                   570                   575
Ala Gly Ala Thr Leu Ile Pro Gly Phe Leu Ala Lys Glu Val Ile Ile
              580                   585                   590
Ser Ser Met Ala Ile Leu Tyr Ser Ser Ser Glu Ser Gly Leu Thr Gln
          595                   600                   605
Val Ile Gln Gln Gln Phe Thr Pro Leu Ser Ala Tyr Ala Phe Met Ile
          610                   615                   620
Phe Ile Leu Leu Tyr Val Pro Cys Ile Ser Thr Val Ala Thr Ile Arg
625                   630                   635                   640
Lys Glu Thr Ser Ser Trp Lys Trp Thr Leu Leu Ala Val Val Tyr Pro
              645                   650                   655
Ile Ala Thr Ala Tyr Ile Leu Thr Phe Val Phe Tyr Gln Val Ser Gln
              660                   665                   670
Leu Phe Ile
          675
```

```
<210> 4725
<211> 360
<212> PRT
<213> S.epidermidis
```

<400> 4725

Leu Glu His His Glu Ile His Ser Leu Met Leu Leu Asn Leu Ile Ala
1   5   10   15
Thr Tyr Lys Met Lys Gly Ala His Pro Met Lys Asn Ile Lys Lys Pro
            20   25   30
Phe Asp Leu Lys Gly Lys Ser Leu Leu Lys Glu Tyr Asp Leu Thr Gly
        35   40   45
Glu Glu Phe Glu Gly Leu Ile Asp Phe Ala Met Thr Leu Lys Lys Tyr
    50   55   60
Lys Gln Gln Gly Thr Pro His Arg Tyr Leu Glu Gly Lys Asn Ile Ala
65   70   75   80
Leu Leu Phe Glu Lys Thr Ser Thr Arg Thr Arg Ala Ala Phe Thr Val
                85   90   95
Ala Ser Ile Asp Leu Gly Ala His Pro Glu Phe Leu Gly Lys Asn Asp
            100   105   110
Ile Gln Leu Gly Lys Lys Glu Ser Val Glu Asp Thr Ala Lys Val Leu
        115   120   125
Gly Arg Met Phe Asp Gly Ile Glu Phe Arg Gly Phe Ser Gln Lys Thr
    130   135   140
Val Glu Gln Leu Ala Glu Phe Ser Gly Val Pro Val Trp Asn Gly Leu
145   150   155   160
Thr Asp Asp Trp His Pro Thr Gln Met Leu Ala Asp Tyr Met Thr Ile
            165   170   175
Lys Glu Asn Phe Gly Tyr Leu Lys Gly Ile Asn Leu Thr Tyr Val Gly
            180   185   190
Asn Gly Arg Asn Asn Val Ala His Ser Leu Met Val Ala Gly Ala Met
        195   200   205
Leu Gly Val Asn Val Arg Ile Cys Thr Pro Ser Ser Leu Thr Pro Arg
    210   215   220
Asp Val Tyr Phe Asn Ile Ala Lys Asp Gln Ala Ser Asn Tyr Gly Gly
225   230   235   240
Ser Val Lys Met Thr Asp Asn Ile His Thr Ala Val Lys Asp Ala Asp
            245   250   255
Val Ile Tyr Thr Asp Val Trp Val Ser Met Gly Glu Glu Ser Glu Phe
            260   265   270
Glu Thr Arg Ile His Leu Leu Lys Asp Tyr Gln Val Asn Arg Lys Met
        275   280   285
Leu Asn Leu Thr Gly Lys Val Asp Thr Ile Phe Leu His Cys Leu Pro
    290   295   300
Ala Phe His Asp Thr Gln Thr Glu Tyr Gly Gln Asn Ile Phe Glu Lys
305   310   315   320
Tyr Gly Leu Thr Glu Met Glu Val Thr Asp Glu Ile Phe Arg Ser Glu
            325   330   335
His Ser Arg Val Phe Asp Gln Ala Glu Asn Arg Met His Thr Ile Lys
            340   345   350
Ala Val Met Ala Ala Thr Leu Gly
            355   360

<210> 4726
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4726
Lys Ser Asn Gln Ile Thr Gln Ile Lys Lys Glu Glu Tyr Tyr Gln Ile

```
1                   5                             10                            15
Gly Ile Asp Ser Phe Val Asn Val Met Leu Val Asn Glu Lys Met Val
                20                            25                            30
Asn Met Tyr Ile Cys His Ser Ile Thr Asp Cys Leu
            35                    40
```

<210> 4727
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4727
```
Arg Leu Asn Gln Pro Arg Thr Thr Ile Asp Asn Tyr Phe Phe Leu Tyr
1                   5                             10                            15
Gln Ile Lys Arg Phe Arg Ile Thr Ser Tyr Arg Tyr Gln Met Tyr Leu
                20                            25                            30
Pro Met Leu Val Gly Leu Thr His
            35                    40
```

<210> 4728
<211> 158
<212> PRT
<213> S.epidermidis

<400> 4728
```
Glu Val Asp His Ser Met Lys Lys Ser Lys Arg Gln Asp Leu Val Thr
1                   5                             10                            15
Met Ile Val Lys Gln Asn His Ile Tyr Lys Lys Ala Asp Ile Ile Asp
                20                            25                            30
Tyr Ile Asp Asp His Phe Gly Val Arg Tyr Ser Met Thr Thr Ile Ala
            35                    40                        45
Arg Asp Leu Arg Glu Leu His Ile Tyr Arg Leu Pro Val Lys Ala Asn
        50                    55                        60
Gln Tyr Glu Tyr Lys Leu Leu Thr Gln Gln Ser Gln Leu Asp Ser Arg
65                    70                        75                        80
Val Arg Leu Asn Asp Tyr Ile Glu Thr Glu Ile Ile Asn Thr Met Ile
                85                        90                            95
Lys Glu Ser Tyr Ile Leu Ile Lys Thr Thr Pro Gly Phe Ala Gln Ser
                100                       105                           110
Ile Asn Tyr Tyr Ile Asp Gln Leu Gln Leu Lys Glu Ile Ile Gly Thr
            115                       120                           125
Ile Ser Gly Asn Asp Thr Ile Met Ile Leu Thr His Ser Gln Ser Ile
        130                       135                           140
Ala Glu Tyr Val Tyr Tyr Lys Ile Phe Asn His Asn Tyr Ser
145                       150                           155
```

<210> 4729
<211> 98
<212> PRT
<213> S.epidermidis

<400> 4729
```
Gly Met Ser Gln Tyr Pro Phe Tyr Arg Arg Met Phe Ile Ile Ile Lys
1                   5                             10                            15
Lys Cys Thr Leu Ile Tyr Asn Ser Ile Lys Glu Leu Tyr Pro Met Arg
                20                            25                            30
```

Lys Ile Leu Lys Gly Ile Ile Leu Ser Leu Ile Ile Ile Gly Leu Ile
        35   40   45
Lys Thr Phe Asn Glu Tyr Asp Ile Ile His Cys Ala Asn His Tyr Phe
        50   55   60
Glu Gln Ile Lys Ser Gly Lys Ile Ile Glu Asp Ile Lys Ile Asp His
65   70   75   80
Phe Asn Asn Tyr His Asn Ile Asn Phe Glu Asp Leu Asn Pro Ser Asp
                    85   90   95
Phe Phe

<210> 4730
<211> 243
<212> PRT
<213> S.epidermidis

<400> 4730
Lys Arg Gly His Ile Val Ile Glu Ala Asn Gln Ile Leu Ala Lys Met
1   5   10   15
Lys Asn Gln Lys Ile Asn Tyr Asp Lys Val Leu Arg Lys Ile Ile Ser
        20   25   30
Gln Trp Glu Arg Asp Gly Glu Arg Pro Lys Ile Leu Leu His Ser Cys
        35   40   45
Cys Ala Pro Cys Ser Thr Tyr Thr Leu Glu Phe Leu Thr Gln Tyr Ala
        50   55   60
Asp Ile Ala Ile Tyr Phe Ala Asn Pro Asn Ile His Pro Lys Ser Glu
65   70   75   80
Tyr Leu Arg Arg Ala Lys Val Gln Glu Gln Phe Val Asn Asp Phe Asn
                85   90   95
Asn Lys Thr Gly Ala Asn Val Lys Tyr Ile Glu Ala Glu Tyr Glu Pro
            100   105   110
His Lys Phe Met Lys Met Ala Lys Asp Lys Gly Leu Thr Glu Glu Pro
            115   120   125
Glu Gly Gly Leu Arg Cys Thr Ala Cys Phe Glu Met Arg Leu Glu Ile
            130   135   140
Val Ala Lys Ala Ala Leu Glu His Gly Tyr Asp Tyr Phe Gly Ser Ala
145   150   155   160
Ile Thr Leu Ser Pro Lys Lys Asn Ala Gln Leu Ile Asn Glu Leu Gly
                165   170   175
Met Asp Val Gln Asn Ile Tyr Asn Val Lys Tyr Leu Pro Ser Asp Phe
            180   185   190
Lys Lys Asn Lys Gly Tyr Glu Arg Ser Ile Glu Met Cys Asn Asp Tyr
            195   200   205
Asn Ile Phe Arg Gln Cys Tyr Cys Gly Cys Val Phe Ala Ala Met Lys
            210   215   220
Gln Gly Ile Asp Phe Lys Gln Ile Asn Lys Asp Ala Gln Ala Phe Leu
225   230   235   240
Gln Gln Phe

<210> 4731
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4731

```
Ile Leu Leu His Asn Val Leu Glu Ile His Ile Leu Ile Phe Ile Phe
1               5                   10                  15
Lys Gln Ser Ser Tyr Lys Ser Ile Thr Val Met Leu His Thr Lys Lys
            20                  25                  30
Pro Glu Thr Thr Ser Tyr Leu Arg Leu Leu Tyr Glu
        35                  40
```

<210> 4732
<211> 55
<212> PRT
<213> S.epidermidis

<400> 4732
```
Ile Phe Ile His Phe Val Thr His Leu Val Asn Ile Ile Leu Leu Ser
1               5                   10                  15
Tyr Thr Thr Asp Phe Ser Lys Ser Lys Ser Leu Tyr Tyr Lys Ile Ile
            20                  25                  30
Leu Asn Pro Lys Ser Ile Phe Glu Asn Ile Ser Asn Tyr Leu Tyr Thr
        35                  40                  45
Leu Asn Lys Tyr Phe Ala Ser
    50                  55
```

<210> 4733
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4733
```
Val Gln Ile His Asn Leu Val Thr Gln Met Tyr Lys Leu Phe Gln Leu
1               5                   10                  15
Gln Leu Leu Gln Lys Val Val Ala Thr Ala His Gln Leu Leu His Thr
            20                  25                  30
Gln His Gln Ala Ile Thr Thr Ala Leu Thr Val Val Gln
        35                  40                  45
```

<210> 4734
<211> 62
<212> PRT
<213> S.epidermidis

<400> 4734
```
Cys Asn Ser His Leu Lys Leu Lys Ser Gly Ile Ser Leu Met Ala Trp
1               5                   10                  15
Ile Trp Phe Ser Arg Met Lys Leu Arg Pro Lys Leu Lys Tyr Ile Ile
            20                  25                  30
Asn Tyr Phe Ile Ile Tyr Val Ala Ile Glu Ile Thr Leu Tyr Ala Val
        35                  40                  45
Ile Leu Asn His Lys Leu Phe Tyr Asn Glu Leu His Ser Leu
    50                  55                  60
```

<210> 4735
<211> 660
<212> PRT
<213> S.epidermidis

<400> 4735

```
Gly Ser Thr His Lys Met Lys Lys Asn Lys Phe Leu Val Tyr Leu Leu
1               5                   10                  15
Ser Thr Ala Leu Ile Thr Pro Thr Phe Ala Thr Gln Thr Ala Phe Ala
            20                  25                  30
Glu Asp Ser Ser Asn Lys Asn Thr Asn Ser Asp Lys Met Glu Gln His
        35                  40                  45
Gln Ser Gln Lys Glu Thr Ser Lys Gln Ser Glu Lys Asp Glu Phe Asn
    50                  55                  60
Asn Asp Asp Ser Lys His Asp Ser Asp Asp Lys Lys Ser Thr Ser Asp
65                  70                  75                  80
Ser Lys Asp Lys Asp Ser Asn Lys Pro Leu Ser Ala Asp Ser Thr His
            85                  90                  95
Arg Asn Tyr Lys Met Lys Asp Asp Asn Leu Val Asp Gln Leu Tyr Asp
            100                 105                 110
Asn Phe Lys Ser Gln Ser Val Asp Phe Ser Lys Tyr Trp Glu Pro Asn
        115                 120                 125
Lys Tyr Glu Asp Ser Phe Ser Leu Thr Ser Leu Ile Gln Asn Leu Phe
    130                 135                 140
Asp Phe Asp Ser Asp Ile Thr Asp Tyr Glu Gln Pro Gln Lys Thr Ser
145                 150                 155                 160
His Ser Ser Asn Asp Glu Lys Asp Gln Val Asp Gln Ala Asp Gln Ala
            165                 170                 175
Lys Gln Pro Ser Gln His Gln Glu Pro Ser Gln Ser Ser Ala Lys Gln
            180                 185                 190
Asp Gln Glu Ser Ser Asn Asp Glu Lys Glu Lys Thr Thr Asn His Gln
            195                 200                 205
Ala Asp Ser Asp Val Ser Asp Leu Leu Gly Glu Met Asp Lys Glu Asp
    210                 215                 220
Gln Glu Gly Glu Asp Val Asp Thr Asn Lys Asn Gln Ser Ser Ser Glu
225                 230                 235                 240
Gln Gln Gln Thr Gln Ala Asn Asp Asp Ser Ser Glu His Asn Lys Lys
            245                 250                 255
Tyr Ser Ser Ile Thr Asp Ser Ala Leu Asp Ser Ile Leu Asp Glu Tyr
            260                 265                 270
Ser Gln Asp Ala Lys Lys Thr Glu Lys Asp Tyr Asn Lys Ser Lys Asn
    275                 280                 285
Thr Ser His Thr Lys Thr Ser Gln Ser Asp Asn Ala Asp Lys Asn Pro
    290                 295                 300
Gln Leu Pro Thr Asp Asp Glu Leu Lys His Gln Ser Lys Pro Ala Gln
305                 310                 315                 320
Ser Phe Glu Asp Asp Ile Lys Arg Ser Asn Thr Arg Ser Thr Ser Leu
            325                 330                 335
Phe Gln Gln Leu Pro Glu Leu Asp Asn Gly Asp Leu Ser Ser Asp Ser
            340                 345                 350
Phe Asn Val Val Asp Ser Gln Asp Thr Arg Asp Phe Ile Gln Ser Ile
            355                 360                 365
Ala Lys Asp Ala His Gln Ile Gly Lys Asp Gln Asp Ile Tyr Ala Ser
    370                 375                 380
Val Met Ile Ala Gln Ala Ile Leu Glu Ser Asp Ser Gly Lys Ser Ser
385                 390                 395                 400
Leu Ala Gln Ser Pro Asn His Asn Leu Phe Gly Ile Lys Gly Asp Tyr
            405                 410                 415
Lys Gly Gln Ser Val Thr Phe Asn Thr Leu Glu Ala Asp Ser Ser Asn
            420                 425                 430
His Met Phe Ser Ile Gln Ala Gly Phe Arg Lys Tyr Pro Ser Thr Lys
            435                 440                 445
```

```
Gln Ser Leu Glu Asp Tyr Ala Asp Leu Ile Lys His Gly Ile Asp Gly
    450                 455                 460
Asn Pro Ser Ile Tyr Lys Pro Thr Trp Lys Ser Glu Ala Leu Ser Tyr
465                 470                 475                 480
Lys Asp Ala Thr Ser His Leu Ser Arg Ser Tyr Ala Thr Asp Pro Asn
                485                 490                 495
Tyr Ser Lys Lys Leu Asn Ser Ile Ile Lys His Tyr His Leu Thr Ser
                500                 505                 510
Phe Asp Lys Glu Lys Met Pro Asn Met Lys Lys Tyr Asn Lys Ser Ile
    515                 520                 525
Gly Thr Asp Val Ser Gly Asn Asp Phe Lys Pro Phe Thr Glu Thr Ser
    530                 535                 540
Gly Thr Ser Pro Tyr Pro His Gly Gln Cys Thr Trp Tyr Val Tyr His
545                 550                 555                 560
Arg Met Asn Gln Phe Asp Ala Ser Ile Ser Gly Asp Leu Gly Asp Ala
                565                 570                 575
His Asn Trp Asn Asn Arg Ala Glu Ser Glu Gly Tyr Thr Val Thr His
                580                 585                 590
Thr Pro Lys Asn His Thr Ala Val Val Phe Glu Ala Gly Gln Leu Gly
                595                 600                 605
Ala Asp Thr Gln Tyr Gly His Val Ala Phe Val Glu Lys Val Asn Asp
    610                 615                 620
Asp Gly Ser Ile Val Ile Ser Glu Ser Asn Val Lys Gly Leu Gly Val
625                 630                 635                 640
Ile Ser Phe Arg Thr Ile Asp Ala Glu Asp Ala Gln Asp Leu Asp Tyr
                645                 650                 655
Ile Lys Gly Lys
            660
```

<210> 4736
<211> 227
<212> PRT
<213> S.epidermidis

<400> 4736

```
His Lys Gly Leu Arg Arg Arg Lys Arg Gln Phe Leu Tyr Leu Phe Asn
1               5                   10                  15
Arg Asn Cys Leu Phe Tyr Asn Cys Ile Lys Lys Thr Met Arg Tyr Ala
            20                  25                  30
Tyr Gly Ser Glu Lys Val Leu Pro Leu Ser Lys Lys Thr Ser His His
        35                  40                  45
Ala Arg Ile Tyr Ile Gly Gln Pro Thr Lys Ile Phe Asn Thr Arg Arg
    50                  55                  60
Cys Phe Phe Met Ser Ser Asp Thr Asn Ser Leu Ala His Thr Lys Trp
65                  70                  75                  80
Asn Cys Lys Tyr His Ile Val Phe Ala Pro Lys Tyr Arg Arg Gln Val
                85                  90                  95
Ile Tyr Gly Lys Ile Lys Arg Asp Ile Gly Val Ile Leu Arg Gln Leu
            100                 105                 110
Cys Glu Arg Lys Gly Val Glu Ile Ile Glu Ala Glu Ala Ser Lys Asn
            115                 120                 125
His Ile His Met Leu Val Ser Ile Pro Pro Lys Leu Gly Val Ser Ser
    130                 135                 140
Phe Val Gly Tyr Leu Lys Gly Lys Ser Ser Leu Met Ile Phe Asp Arg
145                 150                 155                 160
His Ala Asn Leu Lys Tyr Arg Tyr Gly Asn Arg Lys Phe Trp Cys Lys
```

```
                    165                     170                     175
Gly Phe Tyr Val Asp Thr Val Gly Arg Asn Lys Lys Val Ile Glu Asn
                180                     185                     190
Tyr Ile Arg Asn Gln Leu Gln Glu Glu Ile Val Ala Asp Gln Ile Ser
            195                     200                     205
Met Glu Glu Tyr Leu Asp Pro Phe Thr Gly Glu Glu Ile Lys Lys Arg
        210                     215                     220
Arg Lys Lys
225
```

<210> 4737
<211> 52
<212> PRT
<213> S.epidermidis

<400> 4737
```
Gln Phe Lys His Ile Leu Ile Ser Thr Leu Leu Asn Ser Ile Pro Tyr
1               5                   10                  15
Phe Asp Tyr Phe Asn Ile Ile Lys Phe Lys Phe Val Pro Val Lys Leu
                20                  25                  30
Leu Tyr Ser Ile Thr His Leu Tyr Tyr Arg Cys Ile His Thr Tyr Lys
            35                  40                  45
Cys Asn His Thr
        50
```

<210> 4738
<211> 251
<212> PRT
<213> S.epidermidis

<400> 4738
```
Ile Thr Lys Gln Thr Asn Phe Lys Leu Tyr Leu Glu Asp Leu Tyr Ile
1               5                   10                  15
Met Lys Lys Thr Val Ile Ala Ser Thr Leu Ala Val Ser Leu Gly Ile
                20                  25                  30
Ala Gly Tyr Gly Leu Ser Gly His Glu Ala His Ala Ser Glu Thr Thr
            35                  40                  45
Asn Val Asp Lys Ala His Leu Val Asp Leu Ala Gln His Asn Pro Glu
        50                  55                  60
Glu Leu Asn Ala Lys Pro Val Gln Ala Gly Ala Tyr Asp Ile His Phe
65                  70                  75                  80
Val Asp Asn Gly Tyr Gln Tyr Asn Phe Thr Ser Asn Gly Ser Glu Trp
                85                  90                  95
Ser Trp Ser Tyr Ala Val Ala Gly Ser Asp Ala Asp Tyr Thr Glu Ser
                100                 105                 110
Ser Ser Asn Gln Glu Val Ser Ala Asn Thr Gln Ser Ser Asn Thr Asn
            115                 120                 125
Val Gln Ala Val Ser Ala Pro Thr Ser Ser Glu Ser Arg Ser Tyr Ser
        130                 135                 140
Thr Ser Thr Thr Ser Tyr Ser Ala Pro Ser His Asn Tyr Ser Ser His
145                 150                 155                 160
Ser Ser Ser Val Arg Leu Ser Asn Gly Asn Thr Ala Gly Ser Val Gly
                165                 170                 175
Ser Tyr Ala Ala Ala Gln Met Ala Ala Arg Thr Gly Val Ser Ala Ser
                180                 185                 190
Thr Trp Glu His Ile Ile Ala Arg Glu Ser Asn Gly Gln Leu His Ala
```

```
              195                   200                   205
Arg Asn Ala Ser Gly Ala Ala Gly Leu Phe Gln Thr Met Pro Gly Trp
    210                   215                   220
Gly Ser Thr Gly Ser Val Asn Asp Gln Ile Asn Ala Ala Tyr Lys Ala
225                   230                   235                   240
Tyr Lys Ala Gln Gly Leu Ser Ala Trp Gly Met
                245                   250
```

<210> 4739
<211> 513
<212> PRT
<213> S.epidermidis

<400> 4739
```
Leu Phe Leu His Glu Phe Leu Asn Gln Arg Lys Val Ser Lys Lys Met
1               5                   10                  15
Ala Asn Lys Glu Ser Lys Asn Val Val Ile Ile Gly Ala Gly Val Leu
                20                  25                  30
Ser Thr Thr Phe Gly Ser Met Ile Lys Glu Leu Glu Pro Asp Trp Asn
                35                  40                  45
Ile Lys Leu Tyr Glu Arg Leu Asp Arg Pro Gly Ile Glu Ser Ser Asn
    50                  55                  60
Glu Arg Asn Asn Ala Gly Thr Gly His Ala Ala Leu Cys Glu Leu Asn
65                  70                  75                  80
Tyr Thr Val Gln Gln Pro Asp Gly Ser Ile Asp Ile Glu Lys Ala Lys
                85                  90                  95
Glu Ile Asn Glu Gln Phe Glu Ile Ser Lys Gln Phe Trp Gly His Leu
                100                 105                 110
Val Lys Ser Gly Asn Ile Ser Asn Pro Arg Asp Phe Ile Asn Pro Leu
    115                 120                 125
Pro His Ile Ser Phe Val Arg Gly Lys Asn Asn Val Lys Phe Leu Lys
    130                 135                 140
Asn Arg Tyr Glu Ala Met Arg Asn Phe Pro Met Phe Asp Asn Ile Glu
145                 150                 155                 160
Tyr Thr Glu Asp Ile Glu Glu Met Arg Lys Trp Met Pro Leu Met Met
                165                 170                 175
Thr Gly Arg Thr Gly Asn Glu Ile Met Ala Ala Ser Lys Ile Asp Glu
                180                 185                 190
Gly Thr Asp Val Asn Tyr Gly Glu Leu Thr Arg Lys Met Ala Lys Ser
                195                 200                 205
Ile Glu Lys His Pro Asn Ala Asp Val Gln Tyr Asn His Glu Val Ile
    210                 215                 220
Asn Phe Asn Arg Arg Lys Asp Gly Ile Trp Glu Val Lys Val Lys Asn
225                 230                 235                 240
Arg Asn Ser Gly Asp Val Glu Thr Val Leu Ala Asp Tyr Val Phe Ile
                245                 250                 255
Gly Ala Gly Gly Gly Ala Ile Pro Leu Leu Gln Lys Thr Gly Ile Pro
                260                 265                 270
Glu Ser Lys His Leu Gly Gly Phe Pro Ile Ser Gly Gln Phe Leu Ile
    275                 280                 285
Cys Thr Asn Pro Asp Val Ile Asn Glu His Asp Val Lys Val Tyr Gly
    290                 295                 300
Lys Glu Pro Pro Gly Thr Pro Pro Met Thr Val Pro His Leu Asp Thr
305                 310                 315                 320
Arg Tyr Ile Asp Gly Glu Arg Thr Leu Leu Phe Gly Pro Phe Ala Asn
                325                 330                 335
```

```
Ile Gly Pro Lys Phe Leu Arg Asn Gly Ser Asn Leu Asp Leu Phe Lys
            340                 345                 350
Ser Val Lys Pro Tyr Asn Ile Thr Thr Leu Leu Ala Ser Ala Val Lys
            355                 360                 365
Asn Leu Pro Leu Ile Lys Tyr Ser Ile Asp Gln Val Leu Met Thr Lys
            370                 375                 380
Glu Gly Cys Met Asn His Leu Arg Thr Phe Tyr Pro Glu Ala Arg Asp
385           ··        390                 395                 400
Glu Asp Trp Gln Leu Tyr Thr Ala Gly Lys Arg Val Gln Val Ile Lys
                405                 410                 415
Asp Thr Lys Glu His Gly Lys Gly Phe Ile Gln Phe Gly Thr Glu Val
            420                 425                 430
Val Asn Ser Lys Asp His Ser Val Ile Ala Leu Leu Gly Glu Ser Pro
            435                 440                 445
Gly Ala Ser Thr Ser Val Ser Val Ala Leu Glu Val Leu Glu Lys Asn
            450                 455                 460
Phe Ala Glu Tyr Glu Lys Asp Trp Thr Pro Lys Leu Gln Lys Met Ile
465                 470                 475                 480
Pro Ser Tyr Gly Lys Ser Leu Ile Asp Asp Val Lys Leu Met Arg Ala
                485                 490                 495
Thr Arg Lys Gln Thr Ser Lys Asp Leu Glu Leu Asn Tyr Tyr Glu Ser
                500                 505                 510
Lys
```

```
<210> 4740
<211> 46
<212> PRT
<213> S.epidermidis
```

```
<400> 4740
Ile Asn Ser Gln Asn Arg Phe Asn Ser Leu Pro Lys Thr Phe Ile Tyr
1               5                   10                  15
Thr Asn Phe Ile Phe Tyr Asp Ser Phe Lys Leu Leu Phe Leu Val Asn
                20                  25                  30
Trp Phe Tyr Leu Ser Thr Leu Asn Thr Val Lys Val Lys Ser
            35                  40                  45
```

```
<210> 4741
<211> 75
<212> PRT
<213> S.epidermidis
```

```
<400> 4741
Leu Tyr Phe Lys Tyr Ile Gly Asp Arg His Pro Leu Lys Asn Thr Ser
1               5                   10                  15
Tyr Ile Phe Lys Met Arg Ala Ser Gly Ile Phe Leu Tyr Thr Asn Lys
                20                  25                  30
Pro Ile Asn Lys Ile Asn Ile Ile Pro Asp Thr Glu Ile Ile Val Ser
            35                  40                  45
Asn Asn Asp His Val Lys Asn Val Ser Leu Thr Val Ser Pro Lys Tyr
            50                  55                  60
Ser Leu Asn Ile Gln Asn Pro Ala Ser Leu Thr
65                  70                  75
```

```
<210> 4742
```

<211> 49
<212> PRT
<213> S.epidermidis

<400> 4742
Thr Phe Cys Leu Phe Lys Asn Arg Ile Phe Glu Arg Ser Val Ile Lys
1   5   10   15
Met Lys Lys Leu Ala Val Ile Leu Ala Leu Ala Gly Ala Ala Phe Tyr
            20   25   30
Gly Phe Lys Lys Tyr Gln Asn His Val Asn Gln Ala Pro Asn Ile Glu
        35   40   45
Tyr

<210> 4743
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4743
Asn Glu Phe Lys Asp Asn Tyr Cys Arg Val Ile Lys Lys Ser Phe Asn
1   5   10   15
Tyr Asp Gln Thr Gly Lys Arg Arg Arg Ile Ile Arg Glu Phe Val Lys
            20   25   30
Lys Leu Thr Leu Phe His Glu Tyr Ser Ile Leu Phe Ile Lys Ile Lys
        35   40   45
Ser Ile Gln Ser Asp Ile Phe Lys His Met Leu Tyr Ile Lys Ser Ser
    50   55   60

<210> 4744
<211> 366
<212> PRT
<213> S.epidermidis

<400> 4744
Arg Leu Ile Asn Gly Gly Met Thr Met Pro Glu Ser Lys Ala Leu Leu
1   5   10   15
Lys Ser Leu Thr Asp Val Asn Gly Ile Ser Gly His Glu Met Gln Val
            20   25   30
Lys Ser Leu Met Lys Asp Tyr Leu Thr Pro Val Ser Asp Asp Ile Val
        35   40   45
Glu Asp Gln Leu Gly Gly Ile Phe Gly Lys Lys Asn Ala Thr His Gly
    50   55   60
Thr Lys Ser Leu Met Ile Ser Gly His Leu Asp Glu Ile Gly Phe Ile
65   70   75   80
Val Thr Gln Ile Asp Glu Gln Gly Tyr Ile Tyr Phe Thr Pro Ile Gly
            85   90   95
Gly Trp Trp Asn Gln Val Met Leu Ser Gln Lys Val Thr Ile Thr Thr
            100   105   110
Glu Ser Gly Lys Glu Ile Arg Gly Ile Ile Gly Ser Lys Pro Pro His
        115   120   125
Ala Leu Ser Ser Glu Glu Arg Lys Lys Pro Val Asp Ile Lys Asn Met
    130   135   140
Tyr Ile Asp Ile Gly Val Arg Asn Lys Glu Glu Ala Lys Glu Ala Gly
145   150   155   160
Ile Glu Leu Gly Asn Met Ile Thr Pro Tyr Ser Glu Phe Glu Ser Leu

```
                     165                     170                     175
Ala Asn Asp Lys Tyr Leu Thr Ala Lys Ala Phe Asp Asn Arg Tyr Gly
             180                     185                     190
Cys Ala Leu Ala Val Glu Val Leu Gln Gln Leu Lys Asp Glu Asn Ile
             195                     200                     205
Asp Ile Asn Leu Tyr Ala Gly Ala Thr Val Gln Glu Glu Val Gly Leu
             210                     215                     220
Arg Gly Ala Lys Val Ala Ala Asn Leu Ile Lys Pro Asp Leu Ala Ile
225                     230                     235                     240
Ala Val Asp Val Gly Val Ala Tyr Asp Val Pro Gly Met Thr Ser Glu
                     245                     250                     255
Lys Asn Glu Gly Lys Leu Gly Asp Gly Pro Leu Ala Ile Leu Met Asp
             260                     265                     270
Ala Thr Ser Ile Ala His Asp Gly Leu Arg Lys His Ile Lys Asp Val
             275                     280                     285
Ala Glu His His Asn Ile Pro Val Gln Trp Ala Thr Thr Pro Gly Gly
             290                     295                     300
Gly Thr Asp Ala Gly Ser Ile His Val Ala Asn Glu Gly Ile Pro Thr
305                     310                     315                     320
Ile Thr Ile Gly Val Pro Leu Arg Tyr Met His Ser Asn Val Ser Val
                     325                     330                     335
Leu Asn Ile Asp Asp Tyr Thr Asn Ser Val Arg Leu Ile Thr Glu Ile
             340                     345                     350
Val Arg Ser Leu Asn Asp Asp Ser Tyr Gln Ala Leu Met Trp
             355                     360                     365
```

<210> 4745
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4745
```
Leu Ile Ile Lys Lys Ile Lys Phe Leu Thr Thr Met Leu Ala Tyr Leu
1               5                   10                  15
Phe Lys Met Leu His Tyr Thr Leu Val His Lys Cys Asp Leu Ile Ile
             20                  25                  30
Arg Asn Asn Asp Asn Thr Lys Gly Trp Asp Asn Tyr Asp Arg
             35                  40                  45
```

<210> 4746
<211> 52
<212> PRT
<213> S.epidermidis

<400> 4746
```
Leu Ile Ile Lys Phe Cys Phe Tyr Asp Thr Ser Phe Phe Trp Lys Leu
1               5                   10                  15
Lys Arg Tyr Asp Lys Tyr Ser Gly Glu Ser Asn Asn Thr Ser Cys Gly
             20                  25                  30
Leu Phe Ile Val Val Lys Gly Ser Leu Lys Asp Thr Phe Gly Asn Val
             35                  40                  45
Lys Ile Lys Ile
     50
```

<210> 4747
<211> 62

```
<212> PRT
<213> S.epidermidis


<400> 4747
Val Lys Ile Lys Val Thr Asn Leu Ile Leu Arg Cys Ile Met Arg Lys
1               5                   10                  15
Leu Ile Ser Thr Ile Ile Val Ser Thr Leu Leu Ile Gly Gly Cys Ser
            20                  25                  30
Thr Val His Lys Glu Ala Lys His Thr Ser Gln Ser Ile Pro Glu Glu
            35                  40                  45
Val Pro Ala Ser Gln Tyr Lys Gly Gln Gly Phe His Asn Gln
        50                  55                  60


<210> 4748
<211> 293
<212> PRT
<213> S.epidermidis


<400> 4748
Met Glu Ile Lys Gln Ile Lys Tyr Phe Val Glu Val Val Arg Gln Gly
1               5                   10                  15
Gly Met Thr Gln Ala Ser Glu His Leu Tyr Ile Ala Gln Ser Thr Ile
            20                  25                  30
Ser Lys Ala Ile Lys Asn Ile Glu Asn Glu Tyr Asp Ile Thr Leu Phe
            35                  40                  45
Asp Arg Ser Gln Lys Gln Ile Lys Leu Thr Asp Ile Gly Gln Thr Phe
        50                  55                  60
Tyr Asp Asn Ser Leu Glu Phe Leu Ala Leu Phe Glu Lys Leu Ser Leu
65                  70                  75                  80
Glu Met Asn Asp Ile Val Asn Val Gln Lys Gly His Ile Lys Ile Gly
                85                  90                  95
Leu Ser Pro Met Met Asn Val Gln Met Phe Thr Asn Ala Leu Asn Gln
            100                 105                 110
Phe His Arg Leu Tyr Pro Asn Val Thr Tyr Glu Val Ile Glu Gly Gly
            115                 120                 125
Gly Lys Ile Val Glu Asn Leu Thr Ser Asn Asp Asp Val Asp Ile Gly
            130                 135                 140
Ile Thr Thr Leu Pro Val Asp His Thr Glu Phe His Ser Thr Ser Leu
145                 150                 155                 160
Tyr Asn Glu Glu Leu Leu Leu Val Val Ser Asn Asp His His Leu Ala
                165                 170                 175
His Leu Asn Lys Val Asp Met Ala Asp Leu Lys Asp Glu Glu Phe Val
            180                 185                 190
Leu Phe His Asp Asp Tyr Tyr Leu Lys Asp Gln Ile Ile Glu Asn Cys
            195                 200                 205
Lys Arg Leu Gly Tyr Tyr Pro Lys Thr Val Ala Asn Ile Ser Gln Ile
        210                 215                 220
Ser Phe Ile Ala Asn Met Ile Gln Gln Gly Ile Gly Ile Ser Ile Val
225                 230                 235                 240
Pro Glu Ser Leu Val Asn Leu Met Gly Asn Asn Val Thr Ser Ile Gln
            245                 250                 255
Leu Glu Asn Val Glu Leu Ser Trp His Leu Gly Val Ile Trp Arg Lys
            260                 265                 270
Asp Ala Tyr Leu Asn His Val Thr Arg Lys Trp Ile Glu Phe Ile Ser
        275                 280                 285
Glu Met Lys Pro Thr
```

290

<210> 4749
<211> 90
<212> PRT
<213> S.epidermidis

<400> 4749
Met Lys Ile Asn Ile Phe Gly Tyr Asn Ile Phe Ala Lys Gly Gly Thr
1   5   10   15
Ser Arg Ser Asn Ile Asn Leu Val Lys Ser Leu Leu Glu Ile Gly His
            20   25   30
Glu Val His Tyr Phe Asn Tyr Gln Asp Tyr Asn Lys Ser Asp Ile Thr
        35   40   45
Lys Leu Ile Ile Tyr Glu Gly Leu Ser Thr Lys His Leu His Ile His
    50   55   60
Gln Phe Asn Ser Gly Lys Glu Leu Ala His Gly Asp Leu Leu Ile Ile
65   70   75   80
Thr Arg Glu Thr Phe Leu Ile Met His Ile
                85   90

<210> 4750
<211> 303
<212> PRT
<213> S.epidermidis

<400> 4750
Arg Gly Ile Asn Met Phe Asp Ser Ile Arg Glu Thr Ile Asp Tyr Ser
1   5   10   15
Val Glu Asn Asn Ile Ser Phe Ala Asp Met Met Ile Asn Asp Glu Met
            20   25   30
Glu Arg Glu Gly Lys Ser Arg Glu Glu Val Arg Asp Leu Met Arg Gln
        35   40   45
Asn Leu Asn Val Met Arg Glu Ala Val Glu Lys Gly Thr Thr Gly Asp
    50   55   60
Gly Val Glu Ser Val Thr Gly Tyr Thr Gly His Asp Ala Ala Lys Leu
65   70   75   80
Arg Asp Tyr Asn Glu Asn Asn His Ala Leu Ser Gly His Glu Met Ile
                85   90   95
Asp Ala Val Lys Gly Ala Val Ala Thr Asn Glu Val Asn Ala Ala Met
            100   105   110
Gly Ile Ile Cys Ala Thr Pro Thr Ala Gly Ser Ser Gly Thr Ile Pro
        115   120   125
Gly Val Ile Phe Lys Leu Glu Lys Thr His Asn Ile Thr Glu Asp Gln
    130   135   140
Met Ile Asp Phe Leu Phe Thr Ser Ala Leu Phe Gly Arg Val Val Ala
145   150   155   160
Asn Asn Ala Ser Val Ala Gly Ala Thr Gly Gly Cys Gln Ala Glu Val
            165   170   175
Gly Ser Ala Ser Ala Met Ala Ala Ala Ala Val Ser Ile Phe Asn
        180   185   190
Gly Ser Pro Glu Gln Ser Gly His Ala Met Ala Leu Ala Ile Ser Asn
        195   200   205
Leu Leu Gly Leu Val Cys Asp Pro Val Ala Gly Leu Val Glu Ile Pro
    210   215   220
Cys Val Met Arg Asn Ala Ile Gly Ser Gly Asn Ala Leu Ile Ser Ala

```
225                     230                     235                     240
Asp Leu Ala Leu Ala Gly Val Glu Ser Gln Ile Pro Val Asp Glu Val
                245                     250                     255
Ile Gly Ala Met Asp Arg Val Gly Arg Asn Leu Pro Ala Ser Leu Arg
            260                     265                     270
Glu Thr Gly Leu Gly Gly Leu Ala Gly Thr Pro Thr Gly Glu Glu Ile
        275                     280                     285
Lys Arg Lys Ile Phe Gly Glu Ala Asp Asn Met Val Lys Asn Lys
    290                     295                     300
```

<210> 4751
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4751
```
Ser Pro Cys Leu Ile Ser Ala Ala Ile Asp Val His Ser Phe Lys Ile
1               5                   10                  15
Val Tyr Ile Tyr Ile Tyr His Ala Leu Thr Phe Ser Asn Ile Ile Ser
            20                  25                  30
Leu Gln Phe Thr Phe Ile Leu Ile Thr Ile Ala Phe Leu
        35                  40                  45
```

<210> 4752
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4752
```
Phe Leu Thr Asn His Met Ile Asn Ser Ala Val Pro Val Ile Ser Ile
1               5                   10                  15
Leu Asn Ala Met Asp Val Asn Leu Leu Asn Phe Thr Glu Lys Gly Lys
            20                  25                  30
Ala Ile Ser Asp Thr Pro Ile Gly Ile
        35                  40
```

<210> 4753
<211> 100
<212> PRT
<213> S.epidermidis

<400> 4753
```
Glu Leu Thr Lys Met Ile Ile Ile Asn Ala Lys Leu Lys Ile Asp Ala
1               5                   10                  15
Asn Lys Arg Glu Asp Tyr Leu Lys Leu Met Lys Glu Leu Val Ile Asn
            20                  25                  30
Ser Arg Lys Glu Asp Gly Asn Leu Phe Tyr His His Tyr Glu Asp Val
        35                  40                  45
Thr Glu Lys Asn Val Phe Val Val Val Glu Asn Tyr Lys Asp Glu Gln
    50                  55                  60
Ala Val Gln Ala His Asn Gln Ser Asp His Phe Lys Val Phe Ser Asp
65                  70                  75                  80
Asn Ile Ser Gln Tyr Leu Ile Glu Glu Pro Gln Ile Asp Val Ser Gln
                85                  90                  95
Pro Ile Gln Leu
            100
```

<210> 4754
<211> 313
<212> PRT
<213> S.epidermidis

<400> 4754
Leu Phe Tyr Lys Val Val Tyr Phe Val Glu Leu Asn Ile Leu Glu Cys
1   5   10   15
Glu Gly Val Phe Glu Leu Lys Lys Leu Ala Val Ile Cys Ala Phe Thr
            20   25   30
Ile Leu Ile Leu Ala Gly Cys Gly Leu Gly Asp Ser Asp Asn Asn Gly
            35   40   45
Ser Ser Thr Ile Asn Asp Asp Gln Gln Ser Gly Tyr Lys Ser Asn Arg
        50   55   60
Asp Ser Lys Ser Ser Ile Ser Arg Asn Gln Thr Glu Asp Asn Gln Gln
65   70   75   80
Asp Thr Gln Gln Asp Thr His Ser Asn Arg Tyr Tyr Ala Gln Val Trp
                85   90   95
Leu Thr Ala Leu Asp Ser Tyr Arg Gly Glu Ser Asp Leu Pro Phe Asp
            100   105   110
Asp Leu Glu Ile Val His Gln Asn Ile Ser Asn Lys Val Leu Asp Pro
            115   120   125
Tyr His Pro Asp Glu Ser Ala Lys Leu Pro Glu Gly Thr Glu Leu Leu
        130   135   140
Thr Ala Ser Val Thr Ala Ala Gly Ser Val Tyr Tyr Lys Ser Asn Gly
145   150   155   160
Asp Gly Thr Ile Thr Ile Tyr Ser Val Pro Ser His Phe Gln Gly Ser
                165   170   175
Trp Arg Asp Ala Asp Tyr Ser Lys Arg Glu Ser Gln Arg Ile Ile Asp
            180   185   190
Asp Ala Arg Thr Val Lys Leu Tyr Asn Ala Ser Glu Ser Glu Ile Asn
        195   200   205
Lys Ile Ser Gln Met Met Arg Thr Glu Phe Ser Val Gly Asp Asn Leu
        210   215   220
Thr Asp Glu Asp Asp Thr Ser Glu Ser Glu Asp Gln Ser Ser Ser Ser
225   230   235   240
Asp Glu Val Thr Val Thr Arg Ser Asn Val Ile Asp Ile Val Glu Asp
                245   250   255
Tyr Glu Gly His Gln Leu Asp Thr Asp Thr Tyr Ile Tyr Lys Glu Pro
        260   265   270
Glu Lys Asp Ser Asp Gly Ser Trp Gly Phe Ser Phe Thr Asp Lys Glu
        275   280   285
Gly His Leu Glu Gly Ser Tyr Ile Ile Asp Lys Asp Gly Glu Val Thr
        290   295   300
Lys Tyr Asp Glu Asp Gly Glu Pro Glu
305   310

<210> 4755
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4755
Asn Asn Tyr Lys Leu Thr Ile Phe Lys Asn Val Gln Gln Phe Asn Lys
1   5   10   15

Phe Leu Lys Ile Arg Tyr Leu Arg Ser Asn Thr Cys Arg Leu Phe Tyr
        20   25   30
Cys Tyr Ile Ile Ser Asn Gly Leu
        35   40

<210> 4756
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4756
Lys Asn Tyr Lys Lys Asp Asn Phe Tyr Ile Ile Ser Ile Glu Ile Val
1   5   10   15
Phe Ile Tyr Leu Ser Trp Thr Phe Leu Ser Gln Pro Leu His Phe Tyr
            20   25   30
Asn Ile Thr Ile Leu Phe Phe Ile Asn His Ile
        35   40

<210> 4757
<211> 413
<212> PRT
<213> S.epidermidis

<400> 4757
Asn Val Tyr Asn Arg Cys Tyr Asn Phe Ser Arg Arg Ile Met Met Met
1   5   10   15
Thr Thr Ser Ser Lys His Leu Ser Lys Ile Leu Ile Val Ile Leu Gly
            20   25   30
Val Met Thr Ala Phe Gly Pro Leu Thr Ile Asp Met Tyr Gly Pro Ser
            35   40   45
Leu Pro Lys Val Gln His Ala Phe Gly Ser Ser Ile Ser Glu Ile Gln
        50   55   60
Leu Thr Leu Ser Phe Ala Met Ile Gly Leu Ala Ile Gly Gln Phe Val
65   70   75   80
Phe Gly Pro Leu Ser Asp Val Leu Gly Arg Lys Lys Met Ala Leu Ile
                85   90   95
Leu Leu Ile Gly Tyr Leu Ile Ala Ser Leu Leu Ser Val Phe Thr Val
            100   105   110
His Leu Thr Ile Phe Leu Ile Ile Arg Leu Ile Gln Gly Leu Ala Gly
        115   120   125
Gly Gly Ala Ile Val Ile Ala Lys Ala Ser Ile Gly Asp Asn Tyr Asp
        130   135   140
Gly Asn Lys Leu Ala Lys Phe Leu Thr Ser Leu Met Val Ile Asn Gly
145   150   155   160
Ile Ile Thr Ile Ile Ala Pro Leu Leu Gly Gly Leu Ala Leu Ser Ile
                165   170   175
Ala Ser Trp Lys Met Ile Phe Ile Phe Leu Thr Ile Ile Thr Leu Ile
            180   185   190
Val Ile Leu Gly Ile Leu Leu Lys Met Pro Val Gly Leu His Gln Lys
        195   200   205
Gln Ser Gln Leu Asn Phe Lys Ala Ile Phe Lys Asp Phe Gly Leu Leu
        210   215   220
Leu Thr Lys Pro Thr Phe Val Ile Pro Met Leu Leu Gln Gly Leu Thr
225   230   235   240
Tyr Val Met Leu Phe Ser Tyr Leu Ser Ala Ala Pro Phe Ile Ser Gln
                245   250   255

Lys Met Tyr His Met Thr Pro Leu Gln Tyr Ser Ala Met Phe Ala Ile
                260   265   270
Asn Gly Val Gly Leu Ile Val Val Ser Gln Ile Thr Ala Ile Ile Val
                275   280   285
Glu Lys Ile Ser Arg Tyr Ala Met Leu Ile Tyr Leu Thr Ile Ile Gln
                290   295   300
Met Leu Gly Val Val Ile Leu Ile Phe Thr Leu Thr Leu His Leu Pro
305   310   315   320
Leu Tyr Val Leu Leu Ile Gly Phe Phe Ile Asn Ile Cys Pro Val Thr
                325   330   335
Ser Ile Ala Pro Leu Cys Phe Ser Met Ala Met Ala Glu Arg Thr Gly
                340   345   350
Gly Ser Gly Asn Ala Ser Ser Leu Leu Gly Leu Phe Gln Phe Ile Leu
                355   360   365
Gly Gly Leu Ile Ser Pro Leu Val Gly Leu Asn Gly Gln His Asp Met
                370   375   380
Ser Pro Tyr Leu Ile Ile Ile Ser Ala Thr Ala Val Leu Leu Ile Ala
385   390   395   400
Leu Gln Ile Ile Tyr Phe Lys Leu Phe Met Lys Asn Thr
                405   410

<210> 4758
<211> 79
<212> PRT
<213> S.epidermidis

<400> 4758
Ile Pro Tyr Lys Gly Val Tyr Ile Phe Arg His Phe Phe Asn Ser Tyr
1   5   10   15
Ile Leu Lys Leu Ile Tyr Ser Asn Ser Met Tyr Phe Ser Ser Leu Leu
                20   25   30
Phe Arg His Leu Leu Gln Asn Asn Ile Ile Glu Ile Lys Lys Ser Leu
                35   40   45
Asp Ile His Leu Pro Cys Val Gln Thr Leu Asn His Ala His Ser Ile
        50   55   60
Leu Leu Ile Gln Ser Ser Ser Tyr Leu Tyr Leu Phe Lys Pro Phe
65   70   75

<210> 4759
<211> 228
<212> PRT
<213> S.epidermidis

<400> 4759
Cys Arg Tyr Lys Asp Val Phe Lys Leu Leu Leu Lys Val Glu His Leu
1   5   10   15
Thr Tyr Lys Val Asp Asn Arg Thr Ile Leu Asp Asp Ile Asn Leu Asn
                20   25   30
Ile Asn Lys Gly Asp Thr Ile Ala Ile Val Gly Pro Ser Gly Ser Gly
                35   40   45
Lys Ser Thr Leu Leu Lys Gln Leu Asn His Leu Ile Ser Pro Thr Ser
        50   55   60
Gly Asp Leu Tyr Leu Asn Asp Gln Ser Tyr Phe Asn Tyr Lys Pro Glu
65   70   75   80
Glu Ile Arg Thr Arg Val Ser Tyr Leu Met Gln Gln Ser Glu Leu Ile
                85   90   95

```
Gly Tyr Thr Ile Glu Asp Asn Met Lys Phe Pro Ala Glu Ala Arg Ser
            100                 105                 110
Glu Ala Phe Asp Arg Asp Lys Ala Lys Gln Leu Ile Ser Gln Val Gly
            115                 120                 125
Leu Gly Asn Tyr Gln Leu Asp Ala Gln Ile Glu His Met Ser Gly Gly
            130                 135                 140
Glu Gln Gln Arg Ile Thr Ile Ala Arg Gln Leu Met Tyr Glu Pro Glu
145                 150                 155                 160
Val Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr His Asn Lys
                165                 170                 175
Lys Lys Ile Glu Glu Ile Ile Phe Lys Leu Ala Asp Lys Gly Ile Ala
                180                 185                 190
Ile Leu Trp Ile Thr His Ser Asp Asp Gln Ser Met Arg His Phe Lys
            195                 200                 205
Arg Arg Ile Thr Ile Thr Asp Gly Lys Ile Ser Ser Asp Glu Glu Leu
    210                 215                 220
Asn Gly Asn Glu
225


<210> 4760
<211> 105
<212> PRT
<213> S.epidermidis

<400> 4760
Ile Thr Tyr Lys Ser Leu Arg Met Leu Leu Phe Ile Gly Gly Pro Ile
1                   5                   10                  15
Met Asp Lys Ile Asn Lys Glu Asp Thr Asp Thr Lys Lys Asp Ser Asn
            20                  25                  30
Asn Asn Tyr Lys His Gln Asn Asp His Ile Asp Arg Gln Gly Leu Asn
            35                  40                  45
Gly Tyr Gln Lys Thr Asp Leu Asp Leu Glu Ile Glu Arg Glu Leu Gln
        50                  55                  60
Glu Met Met Glu Asn Gly Glu Ser Asn Lys Glu Thr Lys Ser Lys His
65                  70                  75                  80
Phe Lys Ile Leu Ser Phe Val Ser Met Ile Val Ile Val Val Ile Ala
                85                  90                  95
Ile Ile Arg Phe Ile Gln Lys Thr Ile
            100                 105


<210> 4761
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4761
Ile Lys His Asn Val Asn Pro His Leu Ile Phe Asn Ile Ile Lys Arg
1                   5                   10                  15
Asn Ile Phe Phe Ile Lys Asn Lys Ser Thr Tyr Ile Gly Leu Phe His
            20                  25                  30
Ile Phe Ile Val Tyr Ile Lys Thr Arg Leu Asn Gln Leu
        35                  40                  45


<210> 4762
<211> 45
<212> PRT
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<213> S.epidermidis

<400> 4762
Ser Phe Asn Lys Gly Ile Glu Leu Met Ser Leu Leu Thr Lys Lys Thr
1   5   10   15
Ala Ile Asn Ser Tyr Ser Phe Ile Ser Tyr Met Asn Lys Gln Ser Ile
                20   25   30
Thr Phe Phe Tyr Arg Lys Pro Ile Pro Phe Met Asn Gly
        35   40   45

<210> 4763
<211> 98
<212> PRT
<213> S.epidermidis

<400> 4763
Gln Leu Asn Lys Ala Tyr Lys Asn Asn Leu Met Ala Lys Thr Asn Lys
1   5   10   15
Ser Gly Thr Arg Ile Phe Tyr Val Pro Asp Leu Leu Tyr Val Tyr Thr
                20   25   30
Asp Ser Tyr Glu Met Ser Pro Thr Gln Arg Ile Ser Glu Glu Ile Pro
        35   40   45
Arg Thr Lys Gln Val Gly Val Gly Ala Pro Thr Glu Arg Ile Ser Glu
    50   55   60
Glu Ile Pro Arg Thr Lys Gln Val Gly Val Gly Glu Lys Thr Gly Asp
65   70   75   80
Asn Glu Phe Tyr Pro Ser Leu Ala Phe Ile Leu Ile Arg Gly Ile Leu
                85   90   95
Gln Ser

<210> 4764
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4764
Leu Lys Asn Lys Ser Gln Thr Leu Gly Glu Thr Val Met Ser Phe Tyr
1   5   10   15
Glu Arg Val Leu Lys Leu Gly Glu Asn Asn His Arg Thr Ala Phe Glu
                20   25   30
Phe Arg Phe Glu Glu Leu Phe Ser Asn Glu Glu Trp Cys Ala Leu
        35   40   45

<210> 4765
<211> 270
<212> PRT
<213> S.epidermidis

<400> 4765
Gly Trp Asn Lys Val Thr Thr Pro Thr Thr His Lys Tyr Asn Arg Tyr
1   5   10   15
Leu Asn Lys Arg Met Ser Leu Lys Thr Ser Phe Ser Ile Ile Leu Ile
                20   25   30
Thr Gly Leu Ile Ile Trp Ser Phe Ile Tyr Thr Gly Phe Ser Ile Gly
        35   40   45

Asp Leu Met Ile Gly Leu Pro Gln Ile Gly Val Phe Phe Lys Gln Met
    50   55   60

Ile Pro Pro Asp Trp Gly Tyr Leu Asp His Ile Thr Gln Pro Met Leu
65   70   75   80

Asp Thr Ile Arg Met Ala Ile Val Gly Thr Phe Leu Gly Ser Ile Val
            85   90   95

Ser Ile Pro Ile Ala Leu Leu Cys Ala Ser Asn Ile Val Gln Thr Lys
          100   105   110

Trp Ile Ala Ile Pro Ser Arg Phe Val Leu Asn Ile Val Arg Thr Ile
          115   120   125

Pro Asp Leu Leu Leu Ala Ala Val Phe Val Ala Ile Phe Gly Ile Gly
      130   135   140

Gln Ile Pro Gly Val Leu Ala Leu Phe Val Leu Thr Ile Cys Ile Ile
145   150   155   160

Gly Lys Leu Leu Tyr Glu Ser Leu Glu Thr Ile Asp Pro Gly Pro Met
            165   170   175

Glu Ala Met Thr Ala Val Gly Ala Asn Lys Val Lys Trp Ile Ala Phe
          180   185   190

Gly Val Val Pro Gln Ala Ile Ser Ser Phe Met Ser Tyr Val Leu Phe
          195   200   205

Ala Phe Glu Ile Asn Ile Arg Ala Ser Ala Val Leu Gly Leu Val Gly
      210   215   220

Ala Gly Gly Ile Gly Leu Phe Tyr Asp Gln Thr Leu Gly Leu Phe Gln
225   230   235   240

Tyr Lys Lys Thr Ala Met Ile Ile Leu Phe Thr Leu Ile Ile Val Val
          245   250   255

Ile Ile Asp Tyr Val Ser Ser Lys Val Arg Glu Lys Leu Ala
          260   265   270

<210> 4766
<211> 76
<212> PRT
<213> S.epidermidis

<400> 4766
Arg Gly Asp Lys Val Ser Phe Tyr His Phe Ile Gln Asn Phe Val Gly
1   5   10   15

Asp Glu Thr Pro Leu Gly Lys Leu Ala Thr Cys Ile Asn Gln Asp Glu
          20   25   30

Asp Leu Pro Met Glu Glu Thr Thr Ala His Asn Ile Leu Asn Tyr Phe
          35   40   45

Asn Gln Leu Asn Tyr Phe Asp Asp Asp Cys Ile Glu Ala Val Lys Arg
      50   55   60

Ser Leu Ser Leu Tyr Glu Gln Ser Lys Val Ala Leu
65   70   75

<210> 4767
<211> 878
<212> PRT
<213> S.epidermidis

<400> 4767
Lys Gly Asp Asn Ser Met Ser Lys Ser Tyr Ala Lys Phe Tyr Lys Cys
1   5   10   15

Ala Leu Gln Val Asn Pro Tyr Ser Tyr Ile Lys Tyr Arg Gly Leu Glu
          20   25   30

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His Glu Met Thr Glu Glu Gln Tyr Asn Glu Ser Ile Tyr Gln Tyr Cys
    35                      40                  45
Lys Thr Asn Asn Ile Ser Ile Ile Gly Leu Ala Asp His Gly Asn Val
    50                      55                  60
Asp Asn Ser Ser Lys Leu Arg Gln Tyr Leu Val Ser Lys Gly Ile Leu
65                      70                  75                  80
Val Phe Pro Gly Phe Glu Ile Ser Thr Ser Glu Lys Val His Ile Val
                85                  90                  95
Cys Leu Phe Ser Glu Asn Thr Glu Glu Arg Glu Leu Glu Arg Tyr Leu
            100                 105                 110
Gly Glu Leu Gly Leu Ser Asn Leu Glu Glu Gly Asn Ser Pro Ser Thr
            115                 120                 125
Leu Ser Phe His Glu Ile Thr Gln Lys Val Leu Asp Arg Gly Gly Phe
    130                 135                 140
Trp Tyr Ala Ala His Val Thr Ser Asp Asn Gly Ile Leu Lys Gly Lys
145                 150                 155                 160
His Asn Asn Leu Trp Gln Ser Asp Lys Leu Ile Ala Ala Gln Ile Pro
                165                 170                 175
Ser Lys Lys Asn Glu Val Asp Pro Lys Tyr Thr Ser Ile Leu Lys Asn
                180                 185                 190
Lys Asp Pro Asn Tyr Gln Lys Gln Thr Pro Phe Ala Leu Ile Asn Ala
            195                 200                 205
Lys Asp Ile Ser Lys Pro Glu Asp Leu Ala Leu Asp Thr Ser Ser Cys
    210                 215                 220
Leu Ile Lys Met Ser Lys Leu Asn Phe Glu Ser Phe Lys Leu Ala Phe
225                 230                 235                 240
Arg Asp Pro Asp Ala Arg Val Lys Leu Asn Ser Asp Ile Asn Asn Lys
            245                 250                 255
Phe Pro His Ser Ser Ile Asp Lys Ile Lys Ile Ser Met Gly Tyr Leu
            260                 265                 270
Asp Asn Leu Ser Leu Asp Leu Ser Ser Asn Leu Asn Thr Ile Ile Gly
            275                 280                 285
Gly Arg Gly Thr Gly Lys Ser Thr Leu Ile Glu Leu Ile Arg Tyr Ala
    290                 295                 300
Leu Asp Ile Ala Pro Thr Ser Gln Asn Thr Asn Thr Ser Phe Glu Asn
305                 310                 315                 320
Ile Cys Lys Ser Asn Leu Gly Ile Gly Gly Lys Val Glu Leu Ile Val
            325                 330                 335
Thr Ser His Ala Gln Tyr Gly Lys Gln Phe Lys Ile Ile Lys Arg Tyr
            340                 345                 350
Asn Glu Asp Pro Ile Ile Lys Asp Ile Asp Asn Asn Val Ser Asn Tyr
            355                 360                 365
Thr Val Lys Asp Ile Leu Pro Asn Ile Glu Val Tyr Ser Gln Asn Glu
    370                 375                 380
Ile Ile Asp Leu Thr Thr Asn Glu Asn Ala Lys Leu Asn Ile Leu Asn
385                 390                 395                 400
Arg Phe Leu Asp Lys Asp Asp Arg Ser Asn Asp Lys Lys Glu Glu Ile
            405                 410                 415
Lys Thr Asn Leu His Ser Asn Ser Lys Ser Leu Ile Lys Ala Lys Glu
    420                 425                 430
Asp Leu Glu Asn Leu Gln Glu Lys Ile Asn Gln Leu Pro Lys Leu Lys
    435                 440                 445
Glu Lys Leu Lys His Phe Asn Glu Leu Gly Ile Gly Lys Lys Leu Glu
    450                 455                 460
Val Gln Gly Lys Ile Ser Arg Glu Glu Gln Tyr Ile Gln Asn Thr Lys
465                 470                 475                 480
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Gln Ile Ile Glu Asp Asn Asp Ile Ser Ile Thr Asn Ile Ile Leu Pro
                485   490   495
Phe Asn Glu Asn Tyr Asn Gln Gln Ile Lys His Val Glu Ile Phe Asp
                500   505   510
Ser Ile Lys Asn Ile Thr Asp Asn His Asn Lys Lys Leu Lys Glu Ile
            515   520   525
Lys Ser Met Phe Thr Asp Leu Lys Asp Thr Thr Gln Asn Glu Ile Glu
        530   535   540
Lys Ile Tyr Asn Val Trp Lys Glu Lys Lys Lys Asn Ile Glu Lys Glu
545   550   555   560
Ile Asn Arg Ala Ile Lys Ser Leu Asp Asp Ile Glu Gly Lys Thr Lys
                565   570   575
Glu Asp Ile Ala His Glu Tyr Thr Glu Thr Gln Lys Gln Ile Thr Ser
            580   585   590
Ile Glu Pro Leu Glu Thr Gln Leu Ser Arg Val Lys Thr Ser Ile Glu
            595   600   605
Thr Leu Glu Asn Glu Arg Ile Gln Leu Lys Glu Asp Leu Lys Glu Ile
        610   615   620
Phe Asp Glu Gln Leu Lys Asn Leu Asn Arg Cys Val Lys Lys Ile Asn
625   630   635   640
Asn Arg Tyr Leu Lys Lys Gln Val Asn Ile Lys Ile Gln Pro Tyr Ala
                645   650   655
Asn Val Asn Asn Leu Ile Glu Phe Leu Lys Glu Glu Asn Gly Leu Gly
            660   665   670
Asp Ser Thr Leu Lys Trp Ile Lys Asn His Gln Ser Phe Asn Phe Pro
        675   680   685
Lys Phe Ile Lys Leu Ile Lys Asp Arg Asp Ser Glu Ala Ile Tyr Glu
        690   695   700
Glu Tyr Lys Asp Ser Gly Leu Lys Lys His Thr Ala Asp Ile Leu Ser
705   710   715   720
Asn Met Leu Tyr Glu Arg Ile Leu Lys Leu Glu Ser Ile Glu Leu Glu
                725   730   735
Asn Ile Ile Asp Ile Arg Leu Asn Val Gly Ser Asp Lys Asp Thr Lys
            740   745   750
Phe Arg Ser Leu Asn His Leu Ser Lys Gly Gln Gln Cys Thr Ala Ile
        755   760   765
Leu Asn Leu Leu Thr Leu Ser Asn Asn Asp Pro Leu Leu Val Asp Gln
        770   775   780
Pro Glu Asp Asn Leu Asp Asn Ser Phe Ile Thr Asn Asn Leu Val Glu
785   790   795   800
Asn Ile Arg Lys Leu Lys Ile Asn Arg Gln Phe Ile Phe Ala Thr His
                805   810   815
Asn Ala Asn Ile Pro Val Phe Gly Asp Ala Glu Leu Ile Val Thr Met
            820   825   830
Glu Asn Glu Asn Gly Gln Gly Ser Val Asn Asn Glu Asn Leu Gly Ser
            835   840   845
Ile Asp Asn Thr Leu Val Arg Asn Ser Val Ile Gln Ile Leu Glu Gly
        850   855   860
Gly Asp Val Ala Phe Lys Met Arg Lys Asn Lys Tyr Gly Leu
865   870   875

<210> 4768
<211> 336
<212> PRT
<213> S.epidermidis

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<400> 4768
Gly Ser Cys Lys Met Ser Arg Tyr Glu Arg Gln Thr Arg Phe Ala Pro
1               5                   10                  15
Phe Gly Glu Glu Gly Gln Gln Lys Leu Ser Ser Ser Gln Ile Leu Ile
            20                  25                  30
Phe Gly Ala Gly Ala Leu Gly Ser His Ile Val Asp Gln Leu Ala Arg
        35                  40                  45
Met Gly Ala His His Ile Ala Ile Val Asp Met Asp Ile Val Glu Ile
    50                  55                  60
Ser Asn Leu His Arg Gln Thr Leu Phe Asp Glu Glu Asp Ala His Thr
65                  70                  75                  80
Leu Ile Ser Lys Val Glu Ala Ile Lys His Lys Val Asn Gln Ile Asn
            85                  90                  95
Ile Asn Val Asn Leu Thr Thr Tyr Asp Leu Glu Val Thr Ser Ser Asn
            100                 105                 110
Ile Glu Asn Leu Ile Lys Asn Val Glu Pro Asp Ile Ile Ile Asp Gly
        115                 120                 125
Met Asp Asn Phe Lys Ile Arg Tyr Leu Ile Asn Glu Val Cys His Lys
    130                 135                 140
Tyr Gln Ile Pro Trp Val Tyr Gly Ala Ala Val Gly Ser Lys Gly Ser
145                 150                 155                 160
Val Tyr Gly Ile Asp His Gln Gly Pro Cys Leu Lys Cys Leu Leu Gln
            165                 170                 175
Thr Ile Pro Asp Thr Gly Glu Ser Cys Ala Ile Asn Gly Val Ile Pro
            180                 185                 190
Pro Val Ile Ser Met Ile Ala Ser Tyr Glu Val Ala Glu Ala Val Arg
            195                 200                 205
Tyr Leu Ser Gly Lys Gly Phe Ser Lys Gln Leu Ile Thr Ile Asp Ala
    210                 215                 220
Phe Asn Ile Asn Tyr Lys Ser Met Asn Val Asp Ala Leu Lys Asn Lys
225                 230                 235                 240
Asp Cys Pro Val Cys Glu Lys His Glu Tyr Thr Leu Leu Glu Ser Gln
            245                 250                 255
Gln Glu Arg Thr Ile Glu Asp Leu Cys Gly Asn Ala Tyr Leu Phe Arg
            260                 265                 270
Phe Pro Pro Lys Ala Phe Lys His Ala Ala His Phe Pro Gly Asn Met
            275                 280                 285
Val Lys Ser Thr Ser Phe Ala Lys Leu Ile Gln Tyr Gln Thr Tyr Glu
    290                 295                 300
Phe Thr Leu Phe Lys Asp Gly Arg Met Asn Ala Tyr Gly Ile His Asn
305                 310                 315                 320
Asp Glu Glu Ala His His Leu Tyr Asn Thr Leu Leu Lys Ser Ile Arg
            325                 330                 335


<210> 4769
<211> 315
<212> PRT
<213> S.epidermidis


<400> 4769
Leu Arg Cys Asn Ile Ser Lys Glu Arg Cys Ile Met Ile Lys Ile Ile
1               5                   10                  15
Ala Thr Ile Ile Val Ser Thr Leu Ile Leu Gly Ser Cys Ser Thr Met
            20                  25                  30
Asn Glu Glu Glu Asn Tyr Ala Ser Gln Ser Ile Pro Ala Ser Gln Tyr
        35                  40                  45
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Lys Gly Gln Gly Phe Gln Pro Val Ala Glu Lys Ser Ala Ile Ala His
    50                  55                  60
Ala Lys Lys His Arg Glu Glu Tyr Glu Lys Leu Gly Glu Gln Phe Phe
65              70                  75                      80
Lys Asp Asn Phe Ser Leu Asn Val Lys Ala Thr Asn Val Val Gly Ser
                85                  90                  95
Gly Asp Gly Val Glu Val Tyr Val His Cys Asp Asp His Asp Ile Val
            100                 105                 110
Phe Asn Ala Ser Ile Leu Phe Asp Lys Glu Ala Ile His Glu Glu Gly
            115                 120                 125
Ser Met Arg Ser Asn Asp Asn Gly Asp Thr Met Ser Asp Met Val Gly
    130                 135                 140
Thr Val Leu Ser Gly Phe Glu Tyr Arg Ala Asn Lys Glu Lys Met Asp
145             150                 155                     160
Asn Leu Glu Lys Tyr Leu Lys Asp Lys Glu Asp Lys Tyr His Tyr Thr
                165                 170                 175
Gly Phe Thr Asp Glu Ala Ile Thr Lys Thr Gln Asn Ile Gly Tyr Gln
            180                 185                 190
Asn Asn Tyr Phe Tyr Ile Thr Thr Ser Ser Thr Lys Leu Arg Asp Tyr
            195                 200                 205
Arg Lys His Phe Glu Pro Leu Ile Lys Glu Ser Asn Asp Asp Phe Arg
    210                 215                 220
Lys His Met Lys Gln Leu Lys Ser Lys Lys Asp Thr Tyr Leu Asn Thr
225             230                 235                     240
Glu Ile Thr Thr Thr Leu Phe Ser Thr Leu Asp Glu Tyr Asp Glu Lys
                245                 250                 255
Ile Ile Arg Lys Asn Ser Ile Ser Met Ala Lys Glu Ile Arg Lys Glu
            260                 265                 270
Pro Ser Ile Pro His Asn Phe Thr Phe His Leu Leu Phe Ser Asn Asn
            275                 280                 285
Lys Leu Lys Ile Asn Asp Pro Asn Ile Asn Asn Asn Gln Ile Asn Glu
    290                 295                 300
Tyr Gly Val Phe His His Asp Gly Phe Lys Asn
305                 310                 315
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<210> 4770
<211> 52
<212> PRT
<213> S.epidermidis

<400> 4770

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Gln Gln Ser Asn Ala Thr Gln Asn Phe Phe Val Ile Ile Ile Leu Ile
1               5                   10                  15
Asn Ile Ile Leu Tyr Asn Lys Asn Lys Arg Phe Gln Gln Asn Lys Asp
            20                  25                  30
Lys Ile Ile Thr Tyr Ala Asn Ile Lys Ile Asn Asp Leu Phe Ile Phe
        35                  40                  45
Lys Lys Tyr Lys
    50
```

<210> 4771
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4771

Val Leu Phe Asn Leu Ser Ile Ser Cys Thr Ile Lys Leu Asn Arg Asp
1   5   10   15
Tyr Phe Lys Arg Ile Val Ser Ile Ile Gly Gly Lys His Gly Arg Lys
            20   25   30
Asn Trp Phe Asp Arg His Trp Phe Gln His Asp Ser Thr Cys Tyr Ile
        35   40   45
Trp Leu Gln
    50

<210> 4772
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4772
Ile Thr Ile Lys Leu Met Ser Met Gly Cys Ser Thr Met Thr Asp Leu
1   5   10   15
Lys Ile Asn Asp Met Asp Ile Ala Glu Ile Asn Gly Phe Trp Val Tyr
            20   25   30
Gln Asn Thr Lys Asn Lys Lys Phe Thr Val Asn Gly Lys Asn
        35   40   45

<210> 4773
<211> 62
<212> PRT
<213> S.epidermidis

<400> 4773
Asn Leu Ile Lys Met Glu Val Ile Leu Leu Asn Ile Lys Lys His Trp
1   5   10   15
Leu Pro Ile Val Val Val Ile Leu Val Val Val Ile Phe Leu Leu Val
            20   25   30
Thr Phe Ala Arg Ala Asn Glu Gly Leu Asp Asn Tyr Glu Gln His Glu
        35   40   45
Leu Asn Asn Gly Glu Gln Gln Tyr Leu Ser Lys Gly Ala Ser
    50   55   60

<210> 4774
<211> 506
<212> PRT
<213> S.epidermidis

<400> 4774
Lys Phe Asn Lys Leu Asn Gly Gly Arg Leu Met Glu Leu Val Asp Lys
1   5   10   15
Leu Ser Asn Arg Gln Tyr Ile Asp Gly Glu Trp Val Glu Ser Ser Asn
            20   25   30
Lys Asn Thr Arg Asp Ile Ile Asn Pro Tyr Asn Gln Glu Thr Ile Phe
        35   40   45
Thr Val Ala Glu Gly Thr Lys Glu Asp Val Glu Arg Ala Ile Leu Ala
    50   55   60
Ala Arg Arg Ser Phe Glu Asp Gly Glu Trp Ser Leu Glu Thr Ser Glu
65   70   75   80
Val Arg Gly Lys Lys Val Arg Ala Val Ala Asp Lys Ile Lys Glu Asn
            85   90   95
Arg Glu Glu Leu Ala Lys Leu Glu Thr Leu Asp Thr Gly Lys Thr Leu

```
                100                      105                      110
Glu Glu Ser Tyr Ala Asp Met Asp Asp Ile His Asn Val Phe Met Tyr
        115                  120                  125
Phe Ala Gly Leu Ala Asp Lys Asp Gly Gly Glu Ile Ile Asn Ser Pro
        130                  135                  140
Ile Pro Asn Ala Glu Ser Lys Val Val Lys Glu Pro Val Gly Val Val
145                  150                  155                  160
Thr Gln Ile Thr Pro Trp Asn Tyr Pro Leu Leu Gln Ala Ser Trp Lys
                165                  170                  175
Ile Ala Pro Ala Leu Ala Thr Gly Cys Ser Leu Val Met Lys Pro Ser
            180                  185                  190
Glu Ile Thr Pro Leu Thr Thr Ile Arg Val Phe Glu Leu Met Glu Glu
        195                  200                  205
Val Gly Phe Pro Lys Gly Thr Ile Asn Leu Val Leu Gly Ala Gly Ser
        210                  215                  220
Glu Val Gly Asp Val Met Ser Gly His Glu Glu Val Asp Leu Val Ser
225                  230                  235                  240
Phe Thr Gly Gly Ile Glu Thr Gly Lys His Ile Met Lys Gln Ala Ala
                245                  250                  255
Asn His Val Thr Asp Val Ala Leu Glu Leu Gly Gly Lys Asn Pro Asn
                260                  265                  270
Ile Ile Phe Asp Asp Ala Asp Phe Glu Leu Ala Val Asp Gln Ala Leu
        275                  280                  285
Asn Gly Gly Tyr Phe His Ala Gly Gln Val Cys Ser Ala Gly Ser Arg
        290                  295                  300
Ile Leu Val His Asn Asp Ile Lys Asp Lys Phe Glu Lys Ala Leu Ile
305                  310                  315                  320
Asp Arg Val Ser Lys Ile Lys Leu Gly Asn Gly Phe Asp Gln Asp Thr
                325                  330                  335
Glu Met Gly Pro Val Ile Ser Thr Ala His Arg Asp Lys Ile Glu Gly
            340                  345                  350
Tyr Met Glu Val Ala Lys Lys Asp Gly Ala Thr Ile Ala Ile Gly Gly
        355                  360                  365
Lys Arg Pro Glu Arg Glu Asp Leu Gln Ala Gly Leu Phe Phe Glu Pro
        370                  375                  380
Thr Val Ile Thr Asp Cys Asp Thr Ser Met Arg Ile Val Gln Glu Glu
385                  390                  395                  400
Val Phe Gly Pro Val Val Thr Val Glu Gly Phe Ala Asp Glu Glu Glu
                405                  410                  415
Ala Ile Arg Leu Ala Asn Asp Ser Ile Tyr Gly Leu Ala Gly Ala Ile
            420                  425                  430
Phe Thr Lys Asp Ile Gly Lys Ala Gln Arg Val Ala Asn Lys Leu Lys
        435                  440                  445
Leu Gly Thr Val Trp Ile Asn Asp Phe His Pro Tyr Phe Ala Gln Ala
        450                  455                  460
Pro Trp Gly Gly Tyr Lys Gln Ser Gly Ile Gly Arg Glu Leu Gly Lys
465                  470                  475                  480
Glu Gly Leu Glu Glu Tyr Leu Val Ser Lys His Ile Leu Thr Asn Thr
                485                  490                  495
Asn Pro Glu Pro Val Asp Trp Phe Ser Lys
        500                  505
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<210> 4775
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4775
Leu Ile Asn Lys His Pro Ser Phe Ile Lys Lys Ser Tyr Glu Thr Gln
1   5   10   15
Ala Ala Arg Gly Pro Gln Thr Phe Thr Phe Asn Pro Leu Ala Phe Leu
            20   25   30
Phe Ile Ile His Ser Ile Tyr Phe Ile Ser Tyr His Glu Gln Leu Phe
            35   40   45
His Ile Val
        50

<210> 4776
<211> 462
<212> PRT
<213> S.epidermidis

<400> 4776
Ile Ile Asn Lys Arg Lys Lys Gly Asn Ala Met Phe Gly Glu Ile Trp
1   5   10   15
Pro Leu Ile Ser Val Val Leu Gly Ile Ile Ile Leu Leu Thr Leu Ile
            20   25   30
Ile Gly Leu Lys Leu Asn Thr Phe Ile Ser Leu Ile Ile Thr Ser Met
            35   40   45
Ile Thr Ala Leu Leu Leu Gly Met Pro Leu Asn Lys Ile Met Glu Thr
        50   55   60
Ile Glu Asn Gly Met Gly Ser Thr Leu Gly His Ile Ala Leu Ile Phe
65   70   75   80
Gly Leu Gly Ala Ile Leu Gly Lys Leu Leu Ala Asp Gly Gly Gly Ala
                85   90   95
Thr Arg Ile Ala Asp Thr Leu Ile Ala Lys Phe Gly Gln Lys His Val
            100   105   110
Gln Trp Ala Met Leu Ile Ala Ala Phe Ile Val Gly Ile Ala Leu Phe
            115   120   125
Phe Glu Val Gly Leu Val Leu Leu Ile Pro Leu Val Phe Thr Val Ala
        130   135   140
Lys Arg Ala Asn Val Ser Ile Leu Lys Leu Gly Leu Pro Met Val Thr
145   150   155   160
Ala Leu Ser Val Thr His Gly Phe Leu Pro Pro His Pro Gly Pro Val
                165   170   175
Val Ile Ala Lys Glu Leu Lys Ala Asn Ile Gly Glu Val Leu Leu Tyr
            180   185   190
Gly Met Ile Ile Ala Ile Pro Val Thr Leu Ile Ala Gly Pro Ile Phe
            195   200   205
Asn Arg Phe Ala Gln Lys Met Val Pro Thr Ala Tyr Thr Arg Glu Gly
        210   215   220
Asp Ile Ser Ser Leu Gly Thr Gln Lys Glu Phe Lys Glu Glu Glu Met
225   230   235   240
Pro Gly Phe Gly Ile Ser Leu Leu Thr Ala Ile Leu Pro Val Ile Leu
            245   250   255
Met Leu Ile Ser Thr Ile Val Gln Leu Ile Thr Gly His Glu Glu Ala
            260   265   270
Thr Asn Val Phe Glu Gln Ile Val Tyr Phe Ile Gly Thr Ala Gly Thr
        275   280   285
Ala Leu Leu Ile Ala Val Ile Phe Ala Ile Phe Thr Met Gly Met Lys
        290   295   300
Gln Gln Arg Lys Met Glu Asp Ile Met Lys Ser Val Thr His Ala Ile

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305                     310                     315                     320
Tyr Pro Ile Gly Met Met Leu Leu Ile Ile Gly Gly Gly Gly Thr Phe
                325                     330                     335
Lys Gln Val Leu Ile Asp Gly Gly Val Gly Asp Thr Ile Ala Lys Met
                340                     345                     350
Phe Glu Gly Thr Ser Met Ser Pro Ile Leu Leu Ala Trp Ile Val Ala
            355                     360                     365
Ala Val Leu Arg Ile Ser Leu Gly Ser Ala Thr Val Ala Ala Val Ser
        370                     375                     380
Thr Thr Gly Ile Val Leu Pro Leu Leu Glu His Ser Asp Val Asn Val
385                     390                     395                     400
Ala Leu Val Val Leu Ala Ile Gly Ala Gly Ser Val Ile Leu Ser His
                405                     410                     415
Val Asn Asp Ala Gly Phe Trp Met Phe Lys Glu Tyr Phe Gly Leu Thr
                420                     425                     430
Val Lys Glu Thr Phe Leu Thr Trp Ser Leu Leu Glu Thr Ile Ile Ser
                435                     440                     445
Val Ser Gly Ile Ile Phe Ile Leu Phe Ile Gly Leu Phe Val
        450                     455                     460
```

<210> 4777
<211> 164
<212> PRT
<213> S.epidermidis

<400> 4777
```
Ser Gln Cys Lys Leu Leu Ile Phe Val Ser Asn Leu Pro Pro Gln Val
1                   5                   10                  15
Val His His Phe Asn Phe Lys Leu Arg Arg Asp Leu Ser Met Lys Leu
            20                  25                  30
Ser Ile Phe His Asp Gly Gln Phe Phe Val Gly Val Val Glu Tyr Gln
        35                  40                  45
Glu Gly Phe Ile His Lys Tyr Leu Lys Val Thr Phe Gly Asn Glu Pro
    50                  55                  60
Ser Asp Glu Thr Val Leu Arg Phe Ile Thr Phe Lys Leu Ile Pro Leu
65                  70                  75                  80
Leu Asn Gln Thr His Cys Lys Lys Lys Pro Ile Gln Lys His Lys Lys
            85                  90                  95
Ile Asn Pro Lys Arg Leu Gln Arg Lys Ile Ala Lys Glu Gln Lys Glu
        100                 105                 110
Thr Asn Leu Thr Thr Phe Ala Gln Gln Ala Ile Lys Glu Glu Gln Glu
        115                 120                 125
Leu Asn Lys Leu Lys Ser Lys Lys Leu Gln Arg Leu Glu Lys Glu Arg
    130                 135                 140
His Arg Gln Tyr Lys Arg Met Leu Lys Arg Lys Lys Ala His Glu Lys
145                 150                 155                 160
His Lys Gly His
```

<210> 4778
<211> 300
<212> PRT
<213> S.epidermidis

<400> 4778
```
Tyr Met Arg Lys Val Leu Ile Phe Ala Ile Ala Gly Phe Leu Ala Gln
```

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1               5                       10                      15
Leu Val Asp Gly Ser Leu Gly Met Gly Phe Gly Ala Ser Ser Ser Ser
            20                      25                  30
Ile Leu Leu Thr Tyr Gly Ile Ala Pro Ala Val Val Ser Ala Thr Val
            35                      40                  45
His Phe Ser Glu Ile Ala Thr Thr Ala Ala Ser Gly Thr Ser His Trp
        50                      55                  60
Arg Phe Asp Asn Val His Lys Pro Thr Met Leu Lys Leu Ala Ile Pro
65                      70                      75                  80
Gly Ser Ile Ser Ala Phe Ile Gly Ala Gly Val Leu Thr Phe Ile His
                85                      90                  95
Gly Asp Tyr Ile Lys Pro Phe Ile Ala Leu Phe Leu Leu Ser Met Gly
            100                     105                 110
Phe Tyr Ile Leu Tyr Gln Phe Leu Phe Lys Arg Ala His Glu His His
            115                     120                 125
His His Val Gly Asn Leu Ser Ser Phe Lys Val Ile Pro Gln Gly Phe
        130                     135                 140
Val Ala Gly Phe Leu Asp Ala Ile Gly Gly Gly Gly Trp Gly Pro Val
145                     150                     155                 160
Asn Thr Pro Leu Leu Leu Ser Ser Lys Lys Ile Gln Pro Arg Tyr Ala
                165                     170                 175
Ile Gly Thr Val Ser Ala Ser Glu Phe Phe Val Thr Ser Ser Ala Ala
            180                     185                 190
Leu Ser Phe Ile Ile Phe Leu Gly Val Thr Gln Ile Asn Trp Phe Ala
            195                     200                 205
Val Ile Ala Leu Ser Leu Gly Gly Met Val Ala Ala Pro Ile Ser Ala
        210                     215                 220
Tyr Leu Val Lys Val Leu Pro Ile Asn Ile Leu Ala Ile Cys Val Gly
225                     230                     235                 240
Gly Leu Ile Ile Phe Thr Asn Ser Asn Ala Leu Leu Ser Tyr Phe Val
                245                     250                 255
Lys Asp Asn Thr Ile Ser Asn Thr Val Arg Phe Ile Ile Ile Leu Ala
            260                     265                 270
Ile Ile Ile Leu Leu Val Phe Gln Val Val Arg Asn Lys Lys Leu Ser
        275                     280                 285
Phe Ser Tyr Lys Lys Ser Arg Val Asn Lys Tyr Asn
    290                     295                 300
```

```
<210> 4779
<211> 44
<212> PRT
<213> S.epidermidis


<400> 4779
Met Asn Ser Asn Ser Ser Ile Ile Asn Asn Asn Ile Asn Ile Gly Ser
1               5                       10                      15
Gly Thr Glu Phe Ile Thr Ser Ser Leu Ser Tyr Ser Leu Tyr Phe Asn
            20                      25                  30
Leu Ile Tyr Lys Ser Phe Ile Tyr Phe Leu Gly Thr
        35                      40


<210> 4780
<211> 513
<212> PRT
<213> S.epidermidis
```

<400> 4780

```
Leu Glu Ser Asn Met Ile Thr Thr Thr Gln Glu Val Asn Ile Met Ala
1               5                   10                  15
Met Ser Asp Lys Lys Asp Val Val Leu Ile Gly Ala Gly Val Leu Ser
            20              25                  30
Thr Thr Phe Gly Ser Met Leu Lys Thr Ile Ala Pro Asp Trp Asp Ile
        35              40                  45
His Leu Tyr Glu Arg Leu Asp Arg Pro Gly Ile Glu Ser Ser Asn Glu
    50              55                  60
Arg Asn Asn Ala Gly Thr Gly His Ala Ala Leu Cys Glu Leu Asn Tyr
65              70                  75                      80
Thr Val Gln Gln Pro Asp Gly Ser Ile Asp Ile Glu Lys Ala Lys Glu
            85                  90                  95
Ile Asn Glu Gln Phe Glu Ile Ser Lys Gln Phe Trp Gly His Leu Val
            100                 105                 110
Lys Ser Gly Glu Ile Gln Asn Pro Lys Glu Phe Ile Asn Pro Leu Pro
        115                 120                 125
His Ile Ser Phe Val Arg Gly Lys Asn Asn Val Lys Phe Leu Lys Asp
    130                 135                 140
Arg Tyr Glu Ala Met Lys Gln Phe Pro Met Phe Asp Asn Ile Glu Tyr
145                 150                 155                 160
Thr Glu Asp Ile Glu Glu Met Arg Lys Trp Ile Pro Leu Met Met Lys
            165                 170                 175
Gly Arg Glu Asp Lys Gly Tyr Met Ala Ala Ser Lys Ile Asp Glu Gly
            180                 185                 190
Thr Asp Val Asn Tyr Gly Glu Leu Thr Arg Lys Met Ala Gln Asn Leu
            195                 200                 205
Lys Asn Ser Pro Asn Val Glu Val Gln Tyr Lys His Glu Val Val Asp
    210                 215                 220
Phe Glu Arg Leu Ser Asn Gly Lys Trp Ser Val Lys Ile Lys Asn Leu
225                 230                 235                 240
Asn Asn Gly Gln Val Phe Glu His Gln Thr Asp Tyr Val Phe Ile Gly
            245                 250                 255
Ala Gly Gly Gly Ala Ile Pro Leu Leu Gln Lys Thr Gly Ile Pro Glu
            260                 265                 270
Ser Lys His Leu Gly Gly Phe Pro Ile Ser Gly Gln Phe Ile Ala Cys
    275                 280                 285
Thr Asn Pro Gln Val Ile Glu Gln His Asp Ala Lys Val Tyr Gly Lys
    290                 295                 300
Glu Pro Pro Gly Thr Pro Pro Met Thr Val Pro His Leu Asp Thr Arg
305                 310                 315                 320
Tyr Ile Asp Gly Glu Arg Thr Leu Leu Phe Gly Pro Phe Ala Asn Val
            325                 330                 335
Gly Pro Lys Phe Leu Lys His Gly Ser Asn Leu Asp Leu Phe Lys Ser
            340                 345                 350
Ile Lys Pro Tyr Asn Ile Thr Thr Leu Leu Ala Ser Ala Val Lys Asn
    355                 360                 365
Leu Pro Leu Ile Lys Tyr Ser Phe Asp Gln Val Ile Met Thr Lys Glu
    370                 375                 380
Gly Cys Met Asn His Leu Arg Thr Phe Tyr Pro Glu Ala Arg Asp Glu
385                 390                 395                 400
Asp Trp Gln Val Tyr Thr Ala Gly Lys Arg Val Gln Val Ile Lys Asp
            405                 410                 415
Thr Glu Glu Asn Gly Lys Gly Phe Ile Gln Phe Gly Thr Glu Val Val
            420                 425                 430
Asn Ser Glu Asp His Ser Val Ile Ala Leu Leu Gly Glu Ser Pro Gly
```

```
              435                    440                    445
Ala Ser Thr Ser Val Ser Val Ala Leu Glu Val Leu Glu Lys Asn Phe
    450                    455                    460
Pro Glu Tyr Ala Lys Asp Trp Glu Pro Lys Ile Lys Lys Met Ile Pro
465                    470                    475                    480
Ser Tyr Gly Glu Ser Leu Ile Asp Asp Val Gln Leu Met Arg Lys Ile
                    485                    490                    495
Arg Lys Gln Thr Ser Lys Asp Leu Glu Leu Gly Phe Tyr Asn Lys Ala
                500                    505                    510
Lys
```

<210> 4781
<211> 351
<212> PRT
<213> S.epidermidis

<400> 4781
```
Tyr Asn Leu Lys Asp Tyr Lys Ile Phe Ile Ile Gly Gly Phe Tyr Met
1                   5                   10                  15
His Cys Pro Asn Cys Gly Asn Pro Ile Glu Asp Asp Asp Leu Phe Cys
                20                  25                  30
Gly Glu Cys Gly His Lys Ile Ser Arg His Pro Gln Ser Val Arg Asn
            35                  40                  45
Ala Glu Ser Glu Ile Thr Lys Ala Glu Lys Asn Asp Glu Glu Gln Asn
        50                  55                  60
Ile Thr Ser Asn Asn Lys Glu Asn Asn Ala Ala Thr His Gln Asn Val
65                  70                  75                  80
Asp Ser Thr Ser His Asp Glu Thr Arg Ser Asn Glu Asn Asp Val Ala
                85                  90                  95
Asp Ser Thr Leu Gln Ser Lys Gln Ser His Asn Asp Thr Gln Gln Ser
            100                 105                 110
Asn Leu Ser Thr Tyr His Gln Arg Pro Gln His Arg Glu Ile Pro Gln
        115                 120                 125
Asn Gln His Asn His Asp Gln Gln Gln Ser Gln Ile Gly Gln Gln Ala
        130                 135                 140
Lys Gln Val Thr Asn Glu Ser Lys Gly Phe Phe Lys Ser Ala Phe Thr
145                 150                 155                 160
Ala Pro Asp Lys Ile Ile Gln Thr Asn His Val Phe Ser Phe Lys Leu
                165                 170                 175
Leu Leu Ser Leu Leu Ile Ile Gly Phe Ile Val Leu Ala Ile Leu Leu
            180                 185                 190
Ala Ser Val Ile Pro Val Glu Ile Gly Ile Phe Gly Thr Thr Arg Gly
        195                 200                 205
Ser Leu Val Thr Ser Ile Ile Phe Gly Ile Ile Leu Phe Leu Val Val
        210                 215                 220
Ile Val Gly Ala Ile Phe Gly Leu Thr Arg Leu Val Val Arg Gln Pro
225                 230                 235                 240
Ile Ala Phe Lys Lys Val Leu Ser Asp Tyr Val Leu Ile Asn Ser Val
                245                 250                 255
Ser Leu Ala Ile Leu Ile Ile Ser Val Ile Leu Ile Leu Ala Glu Ser
            260                 265                 270
Tyr Ser Phe Gly Gly Ser Ile Ala Leu Leu Ser Leu Leu Leu Phe Ile
            275                 280                 285
Ala Ser Gly Ile Tyr Leu Ile Ala Lys Tyr Ser Thr Gly Asn Gln Thr
        290                 295                 300
```

Arg Ile Ser Ser Phe Tyr Gly Val Ile Ile Tyr Ile Ile Ile Leu Phe
305   310   315   320
Leu Phe Ile Arg Ile Phe Gly Glu Ala Phe Phe His Gln Ile Phe Gly
            325   330   335
Asp Phe Ile Glu Glu Leu Gly Asp Leu Phe Glu Gly Gly Thr Tyr
            340   345   350

<210> 4782
<211> 493
<212> PRT
<213> S.epidermidis

<400> 4782
Cys Asn Leu Asn Leu Lys Leu Ile Phe Gln Gly Ile Leu Leu Met Glu
1   5   10   15
Val Phe Asn Met Thr Asn Gln Leu Phe Ile Asn Asn Glu Phe Ile Glu
            20   25   30
Ser Gln Ser Lys Glu Thr Met Asp Val Ile Asn Pro Ala Thr Gly Glu
            35   40   45
Ala Phe Asp Thr Ile Thr Leu Ala Thr Glu Glu Glu Val Asn Asp Ala
            50   55   60
Ile Glu Lys Ser Gln Gln Ala Gln Leu Glu Trp Glu Arg Val Pro Gln
65   70   75   80
Pro Thr Arg Ala Glu His Val Lys Leu Leu Ile Pro Leu Leu Glu Lys
            85   90   95
Asn Arg Asp Glu Ile Ala Gln Leu Tyr Val Lys Glu Gln Gly Lys Thr
            100   105   110
Leu Ala Gln Ala Tyr Gly Glu Ile Asp Lys Ser Ile Ser Phe Ile Asp
            115   120   125
Tyr Met Thr Ser Leu Ser Met Ser Asp Lys Gly Arg Val Leu Gln Asn
            130   135   140
Ser Ile Ala Asn Glu Thr Ile Gln Ile Ile Asn Lys Pro Ile Gly Val
145   150   155   160
Thr Ala Gly Ile Val Pro Trp Asn Ala Pro Ile Leu Val Leu Met Arg
            165   170   175
Lys Val Ile Pro Ala Ile Val Thr Gly Cys Ser Val Val Ile Lys Pro
            180   185   190
Ser Glu Glu Thr Thr Leu Leu Thr Leu Arg Leu Ala Glu Leu Phe Arg
            195   200   205
Ala Ser Thr Ile Pro Ala Gly Leu Phe Gln Ile Val Pro Gly Thr Gly
            210   215   220
Glu Thr Val Gly Thr Gln Leu Ala Ser His Lys Asp Ile Gln Leu Ile
225   230   235   240
Ser Leu Thr Gly Ser Met Arg Ala Gly Lys Ser Val Tyr Glu Asn Ala
            245   250   255
Ala Gln Thr Val Lys Lys Val Asn Leu Glu Leu Gly Gly Asn Ala Pro
            260   265   270
Val Ile Val Thr Ser Asn Ala Asp Leu Asp Lys Ala Val Asn Tyr Ile
            275   280   285
Val Thr Ala Arg Ile Asn Asn Ala Gly Gln Val Cys Thr Cys Pro Glu
            290   295   300
Arg Ile Phe Val His Glu Asp Val His Asp Asp Phe Leu Asn Lys Val
305   310   315   320
Thr Ser Lys Met Lys Ser Leu Thr Val Gly Asp Pro Phe Asp Glu Asn
            325   330   335
Thr Asp Tyr Gly Ala Ile Ile Asn Gln Lys Gln Leu Asp Ser Ile His

```
             340                    345                    350
Glu Lys Val Gln Asp Ala Ile Lys Asn Gly Ala Thr Leu Met Thr Gly
         355                    360                    365
Gly His Gln Leu Lys Arg His Gly Phe Phe Tyr Ala Pro Thr Val Leu
         370                    375                    380
Asp Asn Val Arg Lys Asp Tyr Asn Val Phe Lys Asp Glu Ile Phe Gly
385                    390                    395                    400
Pro Val Leu Ala Ile Thr Thr Tyr Arg Asp Phe Glu Gln Val Ile Glu
                 405                    410                    415
Asp Ala Asn Asp Thr Asn Ala Gly Leu Ser Ser Tyr Ile Phe Ser Glu
             420                    425                    430
Asn Leu Thr Glu Val Met Thr Ala Thr Glu Arg Leu Lys Phe Gly Glu
             435                    440                    445
Val Tyr Ala Asn Cys Glu Ala Glu Glu Val Val Asn Gly Tyr His Ala
         450                    455                    460
Gly Trp Arg Glu Ser Gly Leu Gly Gly Ala Asp Gly Ile His Gly Phe
465                    470                    475                    480
Glu Glu Tyr Tyr Asn Thr Thr Val Ser Tyr Ile Arg Tyr
                 485                    490
```

<210> 4783
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4783
```
Asn Ser Leu Lys Lys Ser Leu Ser Gln Lys Ser Tyr Asn Gln Met Arg
1                    5                     10                    15
Cys Gly Tyr Leu Met Lys Asp Tyr Asn Tyr Val Phe Pro Lys Ile Lys
             20                    25                    30
Arg Thr Leu Val Ile Asn Ser Ile Asp Asn Ser Asn Ser Leu Phe
         35                    40                    45
```

<210> 4784
<211> 55
<212> PRT
<213> S.epidermidis

<400> 4784
```
Cys Leu Leu Asn Tyr Thr Lys Gly Leu Ile Phe Leu Lys Tyr Phe Asn
1                    5                     10                    15
Val Lys Leu His Ile Asn Thr Lys Tyr Phe Gly Glu Thr Leu Glu Gly
             20                    25                    30
Thr Gly Gln Ala Glu Asp Tyr Arg Leu Lys Leu Ser Pro Lys Lys Ala
         35                    40                    45
Ser Gln Gln Tyr Glu Val Phe
     50                    55
```

<210> 4785
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4785
```
Cys Leu Leu Asn Tyr Thr Lys Gly Ser Tyr Phe Phe Ser Ile Ser His
1                    5                     10                    15
```

Ile Lys Thr Lys Tyr Phe Gly Glu Ser Leu Arg Glu Gln Asp Lys Leu
           20   25   30
Lys Leu Ser Pro Lys Lys Ala Arg Gln Gln Tyr Glu Val Leu
           35   40   45

<210> 4786
<211> 277
<212> PRT
<213> S.epidermidis

<400> 4786
Met Lys Leu Lys Arg Gly Phe Gln Lys Asn Lys Thr Pro Gly Arg Leu
1   5   10   15
Glu Met Asn Lys Val Ile Glu Ser Asp Val Thr Leu Ser Ser Met Leu
           20   25   30
Trp Leu Gly Gly Glu Lys Ser Met Ser Ile Tyr Thr Ser Gly Asp Ile
           35   40   45
Ala His Lys Cys His Val Ser Thr Arg Thr Ile Gln Tyr Tyr Asp Lys
       50   55   60
Gln Gly Ile Leu Ser Pro Asn Tyr Thr Ser Glu Thr Asn Arg Arg Phe
65   70   75   80
Tyr Thr Asp Lys Glu Val Glu Lys Leu Glu Leu Ile Leu Leu Leu Lys
               85   90   95
Glu Ile Gly Cys Thr Ile Lys Glu Ile Lys Val Leu Leu Lys Asp Asp
               100   105   110
Ser Ser Met Lys Ser Leu Tyr Thr Phe Leu Gln Ile Lys Lys His Glu
           115   120   125
Ile Gln Gln Ser Ile Thr Asp Lys Glu His Lys Val Cys Lys Ile Glu
       130   135   140
Gln Ile Gln Arg Tyr Val His Gln Asn Ser Ile Ser Pro Ile His Tyr
145   150   155   160
Leu Gln Asp Ile Thr Thr Tyr Met Glu Glu Ser His Arg Leu Lys Gly
               165   170   175
Val Arg Lys Lys Leu Trp Leu Ser Ile Ala Leu Ile Gly Ser Leu Gln
           180   185   190
Tyr Gly Gly Leu Ile Ile Ser Ile Val Thr Arg Arg Lys Lys Pro Phe
           195   200   205
Leu Ser Met Met Pro Val Val Ala Met Tyr Ser Leu Trp Leu Thr Lys
       210   215   220
Lys Tyr Lys Lys Asn Val Ser Tyr Val Cys Pro Asn Cys His His Val
225   230   235   240
Phe Asn Pro Ser Val Ile His Phe Val Thr Ala Ser His Thr Pro Lys
               245   250   255
Thr Arg Lys Leu Gln Cys Pro Asp Cys His Glu Met His Tyr Cys Ile
           260   265   270
Glu Ile Ala Lys Gln
           275

<210> 4787
<211> 237
<212> PRT
<213> S.epidermidis

<400> 4787
Ile Leu Ile Lys Arg Lys Glu Val Lys Val Thr Val Glu Ser Thr Leu
1   5   10   15

Ala Leu Ile Val Lys Val Val Val Leu Gln Phe Asn Gln Val Lys Leu
            20   25   30
Asp Lys Lys Phe Ile Met Lys Ile Ser Met Glu Gly Ser Ser Val Ile
        35   40   45
Asn Leu Glu Gln Leu Ser Leu Tyr Gln Asp Ser Leu Gly Tyr Leu Gly
    50   55   60
Gln Gln Met Asn Phe Pro Glu Lys Met Thr Phe His Pro Lys Ile Phe
65   70   75   80
Glu Glu Thr Ile Ser Lys Ser His Pro Gly Tyr Glu Asp Leu Leu Ala
                85   90   95
Tyr Arg Glu Val Met Met Asn Tyr Thr Leu Ser Glu Ile Lys Ala Ile
            100   105   110
Tyr Thr Asp Thr Phe Asp Phe Ser Lys Lys His Pro Leu Tyr Met Thr
        115   120   125
Phe Asn Lys Phe Asp Thr Gln Lys Glu Arg Gly Gln Met Leu Ala Lys
    130   135   140
Leu Lys Val Leu Tyr Glu Met Phe Gly Leu Lys Met Val Asp Asn Glu
145   150   155   160
Leu Ser Asp Phe Leu Pro Leu Met Leu Gln Phe Leu Gln Val Ala Asp
                165   170   175
Phe Lys Asn Asp Ser Arg Ala Gln Glu Asn Leu Gln Leu Val Ile Met
            180   185   190
Ile Ile Glu Asp Gly Thr Tyr Glu Met Ala Asn Thr Leu Ala Glu Asn
            195   200   205
Asn Asn Pro Tyr Ala Tyr Val Val Ser Ala Leu Arg Lys Thr Leu Lys
    210   215   220
Ala Cys Ile Val Pro Leu Lys Glu Val Glu Asn His Ala
225   230   235

<210> 4788
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4788
Leu Tyr Ile Asn Ile Trp Tyr Trp Asn Ile Lys Ser Asn Lys Tyr Ile
1   5   10   15
Lys Leu Asn Tyr Gln Leu Leu Lys Thr Asn Thr Leu Pro Glu Thr Ile
            20   25   30
Ile Val Val Ser Gly Phe Phe Ile Tyr Lys
        35   40

<210> 4789
<211> 263
<212> PRT
<213> S.epidermidis

<400> 4789
Phe His Ile Asn Leu Leu Arg Arg Asn Thr Leu Met Lys Ala Leu Ile
1   5   10   15
Val Asp Asp Glu Pro Leu Ala Arg Asn Glu Leu Gln Tyr Leu Leu Asn
            20   25   30
Leu Asn Asp Ala Ile Asp Glu Ile Glu Glu Ala Glu Asn Ile Glu Glu
        35   40   45
Thr Leu Glu Lys Leu Leu Tyr Asn Thr Phe Asp Leu Ile Phe Leu Asp
    50   55   60

```
Ile Asn Leu Met Asp Glu Ser Gly Ile Asp Leu Ala Gln Lys Ile Asn
65                  70              75                      80
Lys Met Lys Arg Ser Pro His Ile Ile Phe Ala Thr Ala His Glu Lys
                85              90              95
Phe Ala Val Lys Ala Phe Glu Leu Asn Ala Thr Asp Tyr Ile Leu Lys
            100             105             110
Pro Phe Glu Lys Glu Arg Ile Asn Gln Ala Val Asn Lys Val Asp Met
        115             120             125
Ala Lys Asp Lys Pro Lys Asn Lys Asp Lys Thr Ile Thr Pro Lys Tyr
    130             135             140
Ile Asp Tyr Ser Asp Asp Glu Arg Ala Gln Thr His Val Leu Pro Ile
145             150             155                     160
Glu Val Asp Glu Arg Ile His Ile Leu Asn Phe Thr Asp Ile Ile Ala
            165             170             175
Leu Ser Val Asn Asn Gly Ile Thr Thr Ile Asp Thr Thr Lys Gln Ser
        180             185             190
Tyr Glu Thr Thr Glu Thr Leu Asn His Tyr Glu Lys Lys Leu Pro Ser
        195             200             205
Ser Leu Phe Ile Lys Ile His Arg Ala Thr Ile Val Asn Lys Glu His
    210             215             220
Ile Gln Thr Ile Glu His Trp Phe Asn Tyr Thr Tyr Gln Leu Thr Leu
225             230             235                     240
Thr His Glu Phe Lys Tyr Gln Val Ser Arg Ser Tyr Met Lys Thr Phe
                245             250             255
Lys Gln Gln Leu Gly Leu Gln
                260
```

```
<210> 4790
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4790
Tyr Asp Ile Asn Thr Tyr Tyr His Asp Leu Ile Tyr Lys Thr Leu Asn
1               5               10              15
Pro Asn Arg His Ser Met His Val Thr Tyr Thr Tyr Gln His Tyr Leu
            20              25              30
Tyr Ile Leu Thr Asp Ile Ser Trp
        35              40
```

```
<210> 4791
<211> 590
<212> PRT
<213> S.epidermidis

<400> 4791
Lys Glu Ile Lys Asp Ile Lys Glu Thr Cys Ile Asn Arg Arg Asp Gly
1               5               10              15
Gly Tyr Met Val Asn Thr Asn Asn His Ile Ser Glu Glu Leu Asp Lys
            20              25              30
Asn Leu Asp Glu Met Glu Phe Leu Lys Ala Asn Ser Asp Phe Leu Arg
        35              40              45
Gly Thr Ile Glu Gln Ser Leu Ala Asn Pro Ile Thr Gly Ser Ile Thr
    50              55              60
Gln Asp Asp Ala Lys Leu Leu Lys Phe His Gly Ser Tyr Met Gln Asp
65              70              75                      80
```

```
Asp Arg Asp Leu Arg Asp Glu Arg Arg Lys Gln Lys Leu Glu Pro Ala
            85                      90                      95
Tyr Ser Phe Met Ile Arg Val Arg Val Pro Gly Gly Lys Ala Thr Pro
            100                     105                     110
Glu Gln Trp Ile Ala Met Asp Asp Ile Ser Asn Gln Tyr Ala Asn His
            115                     120                     125
Thr Ile Lys Leu Thr Thr Arg Gln Ala Phe Gln Phe His Gly Ile Leu
    130                     135                     140
Lys Arg Asn Leu Lys Gln Ser Met Lys Asn Ile Asn His Ala Val Leu
145                     150                     155                     160
Asp Ser Ile Ala Ala Cys Gly Asp Val Asn Arg Asn Thr Met Cys Asn
                165                     170                     175
Pro Asn Pro Tyr Gln Ser Gln Val His Lys Glu Ile Asn Asp Tyr Ala
                180                     185                     190
Thr Arg Ile Ser Asn His Leu Leu Pro Arg Thr Asn Ala Tyr His Glu
            195                     200                     205
Ile Trp Leu Asp Gly Glu Lys Val Leu Asp Ser Ser Glu Glu Lys Glu
            210                     215                     220
Pro Ile Tyr Gly Asn Thr Tyr Leu Pro Arg Lys Phe Lys Ile Gly Ile
225                     230                     235                     240
Ala Val Pro Pro Ser Asn Asp Ile Asp Val Tyr Ser Gln Asp Ile Gly
                245                     250                     255
Leu Ile Ala Ile Val Glu Gln Asp Glu Leu Ile Gly Phe Asn Val Thr
                260                     265                     270
Ile Gly Gly Gly Met Gly Met Thr His Gly Asn Thr Glu Thr Tyr Pro
            275                     280                     285
Gln Leu Gly Arg Leu Ile Gly Phe Ile Pro Lys Glu Lys Val Val Asp
    290                     295                     300
Val Cys Glu Lys Ile Leu Thr Ile Gln Arg Asp Tyr Gly Asn Arg Glu
305                     310                     315                     320
Asn Arg Lys Asn Ala Arg Phe Lys Tyr Thr Val Asp Arg Leu Gly Glu
                325                     330                     335
Thr Trp Val Thr Glu Glu Leu Asn Arg Arg Leu Gly Trp Glu Ile Lys
            340                     345                     350
Ala Pro Arg Asp Phe Glu Phe Glu His Asn Gly Asp Arg Leu Gly Trp
            355                     360                     365
Ile Glu Gly Ile Asn Asn Trp Asn Phe Thr Leu Phe Ile Gln Asn Gly
    370                     375                     380
Arg Val Lys Asp Thr Glu Asp Tyr Leu Leu Lys Thr Ala Leu Arg Glu
385                     390                     395                     400
Ile Ala Glu Ile His Thr Gly Asp Phe Arg Leu Ser Pro Asn Gln Asn
                405                     410                     415
Leu Val Ile Ala Asn Val Ser Pro Glu Lys Lys Glu Glu Ile Gln Ala
            420                     425                     430
Ile Ile Asp Lys Tyr Lys Leu Thr Asp Gly Lys Asn Tyr Thr Gly Leu
    435                     440                     445
Arg Arg Asn Ser Met Ala Cys Val Ala Phe Pro Thr Cys Gly Leu Ala
    450                     455                     460
Met Ala Glu Ser Glu Arg Tyr Leu Pro Ser Leu Ile Thr Lys Ile Glu
465                     470                     475                     480
Asp Leu Leu Asp Glu Ser Gly Leu Lys Glu Glu Glu Ile Thr Ile Arg
                485                     490                     495
Met Thr Gly Cys Pro Asn Gly Cys Ala Arg Pro Ala Leu Ala Glu Ile
            500                     505                     510
Ala Phe Ile Gly Lys Ala Pro Gly Lys Tyr Asn Met Tyr Leu Gly Gly
            515                     520                     525
```

Ser Phe Lys Gly Glu Arg Leu Asn Lys Ile Tyr Lys Glu Asn Ile Asp
    530   535   540

Glu Asn Glu Ile Leu Glu Ser Leu Arg Pro Leu Leu Leu Arg Tyr Ser
545   550   555   560

Lys Glu Arg Leu Asp Gly Glu His Phe Gly Asp Phe Val Ile Arg Asp
            565   570   575

Gly Val Ile Ala Lys Val His Asp Gly Arg Asp Phe His Ser
          580   585   590

<210> 4792
<211> 208
<212> PRT
<213> S.epidermidis

<400> 4792
Lys Ala Val Asn Leu Met Arg Ala Lys Lys Leu Ile Ser His Leu Thr
1   5   10   15

Val Ser Arg Ile Thr Ser Thr Arg Asn Val Ile Ile Val Ile Lys Arg
          20   25   30

Glu Gly Val Ile Ile Met Thr Lys Phe Asn Phe Asp Gln Val His Ser
          35   40   45

Asp Ile Gln Phe Lys Ile Lys His Leu Met Val Ser Gln Val Lys Gly
        50   55   60

Thr Phe Lys Gln Phe Asp Val Gln Leu Asp Gly Asp Ile Asn Asp Leu
65   70   75   80

Thr Ser Leu Lys Ala Thr Ala Thr Ile Ile Pro Ser Ser Ile Asp Thr
          85   90   95

Gln Asn Glu Asp Arg Asp Asn His Leu Arg Ser Asn Asp Phe Phe Gly
          100   105   110

Thr Glu Asp Asn Asp Lys Met Thr Phe Val Thr Lys Glu Ile Asn Glu
          115   120   125

Asn Gln Val Val Gly Asp Leu Thr Ile Lys Gly Glu Thr His Glu Glu
          130   135   140

Thr Phe Asp Val Glu Phe Asn Gly Val Ser Lys Asn Pro Met Asn Gly
145   150   155   160

Gln Gln Val Thr Gly Phe Ile Val Ser Gly Thr Ile Asn Arg Glu Lys
          165   170   175

Tyr Gly Ile Asn Phe Asn Gln Ala Leu Glu Thr Gly Gly Val Met Leu
          180   185   190

Gly Lys Asn Val Lys Phe Glu Ala Ser Ala Glu Phe Ser Ile Asp Asn
          195   200   205

<210> 4793
<211> 199
<212> PRT
<213> S.epidermidis

<400> 4793
Phe Lys Val Lys Ile His Lys Leu Ile Leu Gly Gly Ser His Leu Lys
1   5   10   15

Lys Glu Lys Val Met Asp Trp Thr Thr Phe Ile Gly Val Val Ile Val
          20   25   30

Leu Leu Phe Ala Val Ile Pro Met Met Val Phe Pro Lys Ala Ser Glu
          35   40   45

Ile Ile Ile Thr Asp Ile Asn Ser Ala Ile Ser Asn Ser Ile Gly Ser
        50   55   60

```
Val Tyr Leu Phe Met Gly Leu Ala Ile Phe Cys Phe Val Leu Tyr Ile
65                  70                  75                  80
Ala Phe Gly Lys Tyr Gly Asn Val Thr Leu Gly Lys Ala Thr Asp Lys
                85                  90                  95
Pro Glu Phe Asn Asn Phe Thr Trp Ala Ala Met Leu Phe Cys Ala Gly
                100                 105                 110
Ile Gly Ser Asp Ile Leu Tyr Trp Gly Val Ile Glu Trp Ala Phe Tyr
            115                 120                 125
Tyr Gln Val Pro Pro Asn Gly Ala Lys Ser Met Ser Asp Gln Ala Leu
    130                 135                 140
Gln Tyr Ala Thr Gln Tyr Gly Met Phe His Trp Gly Pro Ile Ala Trp
145                 150                 155                 160
Ala Ile Tyr Val Leu Pro Ala Leu Pro Ile Gly Tyr Leu Val Phe Val
                165                 170                 175
Lys Lys Lys Pro Val Tyr Lys Ile Ser Gln Ala Cys Arg Pro Ile Leu
            180                 185                 190
Lys Gly His Thr Asp Lys Leu
        195
```

```
<210> 4794
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4794
Lys Leu Val Lys Ser Val Asn Gly Ile Ile Ile Ile Met Val Pro Lys
1               5                   10                  15
Gln Lys Ile Tyr Lys Val Ile Glu Thr Ile Leu Asn Thr Phe Ser Ile
            20                  25                  30
Tyr Phe Phe Leu Ile Ile Val Met Ile Ile
        35                  40
```

```
<210> 4795
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4795
Phe Ser Ser Asn Thr Phe Ser Asp Phe Leu Leu Leu Ser Thr Ser Leu
1               5                   10                  15
Lys Ser Phe Ile Arg Val Asn Phe Ser Thr Pro Pro Phe Phe Lys Lys
            20                  25                  30
Leu Phe Tyr Tyr Gln Ile Lys Leu Ile Gln Ile Phe Asp Lys Phe Asn
        35                  40                  45
Leu Lys Gln Phe Glu Leu
    50
```

```
<210> 4796
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4796
Lys Ala Ser Asn Gln Lys Glu His Asn Val Glu Cys Arg Ile Ile Ser
1               5                   10                  15
Ile Leu Tyr Leu Ile Val Ile Thr Ser Tyr Val Tyr Lys Ile Tyr His
```

```
                    20                      25                      30
Leu His Asp Lys Gly Thr Val Val Met Thr Thr Thr Val Pro Phe Leu
        35                      40                      45
Leu Tyr
    50
```

<210> 4797
<211> 557
<212> PRT
<213> S.epidermidis

<400> 4797
```
Lys Lys Ser Lys Val Glu Leu Tyr Met Lys Gln Arg Val Gly Gln Tyr
1               5                   10                      15
Leu Met Asp Ala Val Tyr Ser Ala Gly Ala Asp Lys Val Phe Gly Val
            20                      25                      30
Pro Gly Asp Phe Asn Leu Ala Phe Leu Asp Asp Ile Ile Ala His Asn
        35                      40                      45
Asp Ile Lys Trp Ile Gly Asn Thr Asn Glu Leu Asn Ala Ser Tyr Ala
    50                      55                      60
Ala Asp Gly Tyr Ala Arg Ile Asn Gly Ile Gly Ala Met Val Thr Thr
65                      70                      75                      80
Phe Gly Val Gly Glu Leu Ser Ala Val Asn Gly Ile Ala Gly Ser Tyr
                85                      90                      95
Ala Glu Arg Val Pro Val Ile Ala Ile Thr Gly Ala Pro Thr Arg Ala
            100                     105                     110
Val Glu Gln Glu Gly Lys Tyr Val His His Ser Leu Gly Glu Gly Thr
            115                     120·                    125
Phe Asp Asp Tyr Arg Lys Met Phe Glu Pro Ile Thr Thr Ala Gln Ala
        130                     135                     140
Tyr Ile Thr Pro Asp Asn Ala Thr Thr Glu Ile Pro Arg Val Ile Asn
145                     150                     155                     160
Thr Ala Leu Gln Gln Arg Arg Pro Val His Ile His Leu Pro Ile Asp
            165                     170                     175
Val Ala Leu Thr Glu Ile Glu Ile Ser Asn Pro Phe Lys Pro Glu Val
            180                     185                     190
Glu Pro Gln Lys Asn Val Gln Ser Tyr Ile Asn Met Val Gln Asp Lys
            195                     200                     205
Leu Glu Ser Ala Ser Gln Pro Val Ile Ile Thr Gly His Glu Ile Asn
        210                     215                     220
Ser Phe His Leu His Lys Glu Leu Glu Gln Phe Val Asn Gln Thr Gln
225                     230                     235                     240
Ile Pro Val Val Gln Leu Ser Leu Gly Lys Gly Ala Phe Asn Glu Glu
            245                     250                     255
Asn Pro Tyr Tyr Met Gly Ile Phe Asp Gly Ser Ile Ala Glu Gln Asp
            260                     265                     270
Ile Gln Asp Tyr Val Asn Gln Ser Asp Ala Ile Leu Asn Ile Gly Ala
        275                     280                     285
Lys Leu Thr Asp Ser Ala Thr Ala Gly Phe Ser Tyr Gln Phe Asp Ile
        290                     295                     300
Asn Glu Val Ile Met Leu Asn His Asn Glu Phe Lys Ile Asn Asp Thr
305                     310                     315                     320
Cys Ile Glu Ala Phe Ser Leu Pro Asn Ile Leu Asn Gly Leu Asn Lys
            325                     330                     335
Tyr Ile His Tyr Lys Asn Thr Asn Asp Phe Pro Gln Tyr Glu Arg Pro
        340                     345                     350
```

```
Gln Ser His Asn Tyr Glu Leu Ser Asp Gln Pro Leu Thr Gln Glu Thr
        355                 360                 365
Tyr Phe Asn Met Met Gln Asp Phe Leu Gln Gln Asp Asp Ile Leu Ile
        370                 375                 380
Ala Glu Gln Gly Thr Ser Phe Phe Gly Ala Tyr Asp Leu Ala Leu Tyr
385                 390                 395                 400
Lys Asp Asn Thr Phe Ile Gly Gln Pro Leu Trp Gly Ser Ile Gly Tyr
                405                 410                 415
Thr Leu Pro Ala Thr Leu Gly Thr Gln Ile Ala Asn Pro Tyr Arg Arg
            420                 425                 430
Asn Ile Leu Leu Ile Gly Asp Gly Ser Leu Gln Leu Thr Val Gln Ser
            435                 440                 445
Leu Ser Thr Met Ile Arg Gln Asn Leu Asn Pro Val Ile Phe Val Ile
        450                 455                 460
Asn Asn Asp Gly Tyr Thr Val Glu Arg Met Ile His Gly Met Lys Glu
465                 470                 475                 480
Pro Tyr Asn Asp Ile Arg Met Trp Asp Tyr Lys Ser Leu Pro Ser Val
                485                 490                 495
Phe Gly Gly Asp Asn Val Leu Val His Asp Val Asn Thr Ser Glu Glu
                500                 505                 510
Leu Met Leu Thr Phe Glu Asn Ile Lys Ser Asn Ser Asp Arg Met His
        515                 520                 525
Phe Val Glu Val Lys Met Ala Val Glu Asp Ala Pro Val Lys Leu Ser
        530                 535                 540
Asn Ile Ala Lys Ala Phe Ala Ser Gln Asn Lys Ser Ser
545                 550                 555
```

```
<210> 4798
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4798
His Arg Thr Lys Ser Ile Ser Glu Asn Thr Lys Thr Ser Asn Asn His
1               5                   10                  15
Phe His Ile Arg Leu Ile Arg Cys Pro Pro Lys Tyr Pro Asn Ser Thr
                20                  25                  30
Leu Cys Ile Ile Thr Gly Gln Thr Thr
            35                  40
```

```
<210> 4799
<211> 370
<212> PRT
<213> S.epidermidis

<400> 4799
Arg Met Thr Asn Gln Lys Thr Val Gly Leu Val Val Ala Pro Gly Val
1               5                   10                  15
Thr Glu Arg Leu Ala Glu Asn Leu Ile Gln Glu Met Pro Lys Met Leu
            20                  25                  30
Ser Thr His Tyr Asp His Gln Gln Glu Trp Ile Phe Asp Leu Val Thr
            35                  40                  45
Asp Pro Leu Thr Gly Phe Ala Glu Ser Val Asp Glu Ile Phe Gly Lys
        50                  55                  60
Val Ala Asp Tyr His Asp Lys Arg Gln Trp Asp Tyr Val Ile Ala Ile
65                  70                  75                  80
```

```
Thr Asp Leu Pro Met Phe Ala Asp Lys Gln Val Met Ala Leu Asp Ile
                85                  90                  95
Asn Met Glu Asn Gly Ala Ala Ile Phe Ser Tyr Pro Ala Phe Gly Trp
            100                 105                 110
Arg Pro Val Lys Lys Arg Phe Lys His Ala Ile Tyr Asn Ile Ile Gln
            115                 120                 125
Glu Leu Asn Glu Ala Glu Gln Glu Ser Arg Asn Tyr Asp Asn Asn Lys
        130                 135                 140
Gln Ile Glu Asn Ser Val Lys Lys Gln Phe Pro Leu Ser Lys Ile Asp
145                 150                 155                 160
Lys Glu Thr Ile Tyr Met Lys Glu Thr Asp Ser Tyr His Leu Arg Tyr
                165                 170                 175
Leu Ser Ser Ser Arg Ser Arg Gly Met Phe Arg Leu Val Ser Gly Met
            180                 185                 190
Thr Phe Ala Asn Asn Pro Leu Asn Met Met Ala Ser Leu Ser Asn Ile
        195                 200                 205
Val Ala Ile Ala Phe Thr Thr Gly Ala Phe Gly Leu Val Phe Thr Thr
        210                 215                 220
Met Trp Gln Met Ala Tyr Asn Phe Ser Met Trp Arg Leu Phe Gly Ile
225                 230                 235                 240
Ser Ile Ile Ala Ile Ile Gly Met Leu Ile Trp Ile Met Met Ser His
                245                 250                 255
Asp Leu Trp Glu Pro Val Asn Lys Ser Asn His Lys His Ile Thr Trp
            260                 265                 270
Leu Tyr Asn Leu Thr Thr Ile Met Thr Leu Ile Phe Ala Ile Ile Ile
            275                 280                 285
Tyr Tyr Ile Ile Leu Tyr Leu Leu Phe Leu Ile Ala Glu Ile Val Leu
        290                 295                 300
Leu Pro Ser Gly Phe Leu Gly Gln Gln Val Gly Leu Lys Gly Pro Ala
305                 310                 315                 320
Gly Ile Asp Leu Tyr Leu Ser Ile Pro Trp Phe Ala Ala Ser Ile Ser
                325                 330                 335
Thr Val Ala Gly Ala Ile Gly Ala Gly Leu Leu Asn Asp Glu Leu Ile
            340                 345        ·        350
Lys Glu Ser Thr Tyr Gly Tyr Arg Gln Arg Val Arg Tyr Glu Glu Gln
            355                 360                 365
Arg Arg
    370
```

<210> 4800
<211> 629
<212> PRT
<213> S.epidermidis

<400> 4800
```
Thr Met Thr Asn Ile Gly Ile Thr Lys Tyr Lys Arg Trp Ile Arg Leu
1               5                   10                  15
Asn Leu Ser Val Thr Asn Ser Pro Phe Thr Glu Gly Gln Ala Lys Gln
            20                  25                  30
Ile Asn Glu Leu Leu His Thr Leu Ser Pro Asn Gln Gln Val Trp Leu
            35                  40                  45
Ser Gly Tyr Leu Met Ala Asn Gln Gln Ser Asn Thr Ser Thr Asp Ser
        50                  55                  60
Val Glu Gln His Asn Leu Asp Asp Asn Thr Glu Ala Met Leu His Glu
65                  70                  75                  80
Lys Glu Pro Ser Val Glu Pro Glu Ala Arg Ser Ile Thr Ile Leu Tyr
```

```
                    85                  90                  95
Gly Ser Glu Ser Gly Asn Ala Gln Gly Leu Ala Glu Ile Phe Glu Gln
            100                 105                 110
Arg Leu Ser Asp Ile Gly Asn Asp Val Thr Leu Lys Ser Met Asp Asp
            115                 120                 125
Phe Lys Pro Lys Asn Leu Lys Lys Val Glu Asp Leu Phe Ile Ile Thr
        130             135                 140
Ser Thr His Gly Glu Gly Asp Pro Pro Asp Asn Ala Val Glu Leu His
145             150                 155                 160
Glu Tyr Ile His Gly Arg Lys Ala Pro Lys Leu Asp Gly Val Arg Phe
                165                 170                 175
Ser Val Leu Ala Leu Gly Asp Gln Thr Tyr Glu Phe Phe Cys Gln Thr
            180                 185                 190
Gly Lys Asp Phe Asp Asn Arg Leu Ala Glu Leu Gly Ala Glu Arg Leu
            195                 200                 205
Tyr His Arg Thr Asp Cys Asp Val Asp Tyr Glu Glu Asp Ala Glu Lys
        210             215                 220
Trp Met Ala Asn Val Ile Asn Thr Ile Asp Ser Thr Pro Ala Gly Thr
225             230                 235                 240
Glu Ser Glu Gln Val Val Ser Glu Ser Ile Lys Ser Ala Lys Glu Lys
                245                 250                 255
Lys Tyr Ser Lys Ser Asn Pro Tyr Asp Ala Glu Val Leu Thr Asn Ile
            260                 265                 270
Asn Leu Asn Gly Arg Gly Ser Asp Lys Glu Thr Arg His Ile Glu Leu
            275                 280                 285
Leu Leu Asp Asn Phe Gly Glu Glu Tyr Glu Pro Gly Asp Cys Val Val
            290                 295                 300
Val Leu Pro Gln Asn Asp Pro Ala Ile Val Asp Leu Leu Ile Ser Thr
305                 310                 315                 320
Leu Gly Trp Ser Pro Glu Thr Gln Val Leu Ile Asn Glu Asp Gly Asp
                325                 330                 335
Thr Leu Asn Leu Glu Glu Ala Leu Thr Ser His Phe Glu Ile Thr Lys
            340                 345                 350
Leu Thr Lys Pro Leu Ile Glu Asn Ala Ala Ile Phe Phe Asp Asn Glu
            355                 360                 365
Glu Leu Ser Glu Lys Ile Gln Asp Lys Glu Trp Ile Gln Asn Tyr Val
            370                 375                 380
Glu Gly Arg Asp Leu Ile Asp Leu Leu Asn Asp Phe Ala Thr Thr Glu
385                 390                 395                 400
Leu Gln Pro Glu Asn Leu His Gln Leu Leu Arg Lys Leu Pro Pro Arg
                405                 410                 415
Glu Tyr Ser Ile Ser Ser Ser Tyr Lys Ala Thr Pro Asp Glu Val His
            420                 425                 430
Ile Thr Val Gly Ala Val Arg Tyr Gln Ala His Gly Arg Glu Arg Ser
            435                 440                 445
Gly Val Cys Ser Val Gln Phe Ala Glu Arg Ile Gln Glu Gly Asp Thr
        450             455                 460
Ile Pro Ile Tyr Leu Lys Arg Asn Pro Asn Phe Lys Phe Pro Gln Asp
465             470                 475                 480
Glu Ser Thr Pro Val Ile Met Ile Gly Pro Gly Thr Gly Val Ala Pro
            485                 490                 495
Phe Arg Ser Tyr Met Gln Glu Arg Glu Glu Leu Gly Phe Glu Gly Asn
            500                 505                 510
Thr Trp Leu Phe Phe Gly Asp Gln His Phe Thr Thr Asp Phe Leu Tyr
        515                 520                 525
Gln Thr Glu Trp Gln Glu Trp Leu Glu Asp Gly Thr Leu Ser Lys Leu
```

                    530   535   540
Asp Val Ala Phe Ser Arg Asp Thr Asp Lys Lys Val Tyr Val Gln His
545   550   555   560
Lys Ile Val Glu Asn Ser Glu Gln Phe Asn Arg Trp Ile Glu Asn Gly
                    565   570   575
Ala Thr Ile Tyr Val Cys Gly Asp Glu Ser Lys Met Ala Lys Asp Val
                    580   585   590
His Gln Ala Ile Lys Asn Val Leu Ile Lys Glu Gln Asn Leu Ser Glu
                    595   600   605
Thr Asp Ala Glu Glu Tyr Leu Lys Gln Met Lys Arg Asp Lys Arg Tyr
                    610   615   620
Gln Arg Asp Val Tyr
625

<210> 4801
<211> 198
<212> PRT
<213> S.epidermidis

<400> 4801
Arg Ser Thr Lys Arg Asp Met Cys Lys Ser Glu Thr His Glu Gly Thr
1   5   10   15
Ser Phe Met Asn Ile Leu Asn Ile Lys Glu Gly Gln His Tyr Ile Ala
                    20   25   30
Lys Ile Glu Ser His Ser Phe Val Asp Gly Glu Gly Val Arg Cys Ser
                    35   40   45
Val Tyr Val Ser Gly Cys Pro Phe Gln Cys Lys Gly Cys Tyr Asn Val
                    50   55   60
Lys Ala Gln Asn Phe Lys Tyr Gly Glu Pro Phe Glu Leu Glu Met Leu
65   70   75   80
Glu Glu Ile Leu Asp Tyr Cys Ala Pro Ser Tyr Ile Glu Gly Leu Ser
                    85   90   95
Ile Leu Gly Gly Glu Pro Phe Cys Asn Leu Phe Ile Thr Leu Gln Leu
                    100   105   110
Val Glu Ala Phe Arg Gln Arg Phe Gly His Thr Lys Thr Ile Trp Val
                    115   120   125
Trp Thr Gly Phe Leu Phe Glu Tyr Leu Lys Gln Gln Asp Asp Ala Arg
                    130   135   140
Lys Ser Leu Leu Glu His Ile Asp Val Leu Val Asp Gly Met Phe Ile
145   150   155   160
Gln His Leu Tyr Arg Pro Asn Leu Pro Tyr Lys Gly Ser Leu Asn Gln
                    165   170   175
Arg Val Trp Cys Ile Asp Val Gln Ser Ser Leu Gln Lys Glu Gln Val
                    180   185   190
Ile Glu Tyr Leu Thr Lys
                    195

<210> 4802
<211> 84
<212> PRT
<213> S.epidermidis

<400> 4802
Lys Lys Ala Asn Glu Ala Thr Asn Phe Lys Ala Lys Ile Glu Val Val
1   5   10   15
Ser Thr Leu Phe Ser Thr Lys Ser Asp Phe Thr Lys Asn Asn Ser Lys

<pre>
              20   25   30
Lys Asp Leu Leu Phe Leu Ser Asp Asp Leu Tyr His Tyr Lys Glu Lys
          35   40   45
Pro Glu Asn Thr Asn Ile Thr Leu Gln Leu Ser Glu Pro Lys Ile Asn
          50   55   60
Ser Thr Arg Ala Phe Tyr Asp Ala Asn Asn Pro Leu Glu Tyr Gly Val
65   70   75   80
His Lys His Glu
</pre>

<210> 4803
<211> 231
<212> PRT
<213> S.epidermidis

<400> 4803

<pre>
Cys Met Ala Lys Val Lys Glu Lys Val Ala Val Val Thr Gly Ala Ser
1   5   10   15
Ser Gly Ile Gly Glu Ala Ile Ala Asn Lys Leu Ser Gln Gln Gly Ala
          20   25   30
Ser Ile Val Leu Val Gly Arg Asn Glu Gln Arg Leu Asn Glu Ile Val
          35   40   45
Gln Gln Leu Asn Asn Pro Ala Lys Val Val Thr Ala Asp Val Thr Val
          50   55   60
Lys Ser Asn Ile Asp Asp Met Leu Lys Ala Val Ile Asp His Phe Gly
65   70   75   80
His Ile Asp Ile Val Val Asn Ser Ala Gly Gln Ser Leu Ser Ser Lys
                85   90   95
Ile Thr Asp Tyr Asn Val Glu Gln Trp Asp Thr Met Ile Asp Val Asn
              100   105   110
Ile Lys Gly Thr Leu His Val Leu Gln Ala Thr Leu Pro Tyr Leu Leu
          115   120   125
Lys Gln Ser Ser Gly His Ile Ile Asn Leu Ala Ser Val Ser Gly Phe
          130   135   140
Glu Pro Thr Lys Thr Asn Ala Val Tyr Gly Ala Thr Lys Ala Ala Ile
145   150   155   160
His Ala Ile Thr Gln Ser Leu Glu Lys Glu Leu Ala Arg Thr Gly Val
                165   170   175
Lys Val Thr Ser Ile Ser Pro Gly Met Val Asp Thr Pro Met Thr Glu
              180   185   190
Gly Thr Asp Phe Gly Glu Arg Lys Lys Leu Glu Ala Gln Asn Ile Ala
          195   200   205
Asp Ala Val Val Tyr Ala Leu Thr Gln Pro Ser His Val Asn Val Asn
          210   215   220
Glu Val Thr Ile Arg Pro Val
225   230
</pre>

<210> 4804
<211> 802
<212> PRT
<213> S.epidermidis

<400> 4804

<pre>
Ser Met Ala Lys Gln Lys Leu Val Met Ile Gly Asn Gly Met Ala Gly
1   5   10   15
Leu Arg Thr Ile Glu Glu Ile Leu Glu Arg Ser Gln Ser Gln Phe Asp
</pre>

```
              20                          25                          30
Ile Thr Ile Ile Gly Lys Glu Pro Tyr Pro Asn Tyr Asn Arg Ile Met
          35                          40                          45
Leu Ser Asn Ile Leu Gln Lys Lys Met Thr Val Glu Asp Thr Ile Met
          50                          55                          60
Asn Pro Tyr Asp Trp Tyr Gln Glu Asn Asn Ile Glu Leu Ile Asn Asn
65                          70                          75                          80
Asp Pro Val Glu Lys Val Asp Lys Glu Asn Lys Ile Val Thr Thr Ser
                    85                          90                          95
Lys Gly Ile Glu Val Glu Tyr Asp Ile Cys Ile Phe Ala Thr Gly Ser
              100                         105                         110
Lys Ala Phe Val Leu Pro Ile Pro Gly Ser Asn Leu Pro Ser Val Ile
              115                         120                         125
Gly Trp Arg Thr Ile Asp Asp Thr Asn Lys Met Ile Glu Ile Ala Gln
          130                         135                         140
Thr Lys Lys Arg Ala Val Val Ile Gly Gly Gly Leu Leu Gly Leu Glu
145                         150                         155                         160
Cys Ala Arg Gly Leu Leu Asp Gln Gly Met Glu Val Thr Val Leu His
              165                         170                         175
Leu Ala Asp Trp Leu Met Glu Met Gln Leu Asp Arg Lys Ala Gly Glu
              180                         185                         190
Met Leu Lys Ala Asp Leu Glu Lys Gln Gly Met Lys Ile Glu Leu Gln
              195                         200                         205
Ala Asn Ser Lys Glu Ile Ile Gly Asp Lys Asp Val Glu Ala Ile Lys
          210                         215                         220
Leu Ala Asp Gly Arg Val Ile Glu Thr Asp Leu Val Val Met Ala Val
225                         230                         235                         240
Gly Ile Arg Pro Tyr Thr Glu Val Ala Lys Asp Ser Gly Leu Asp Val
              245                         250                         255
Asn Arg Gly Ile Val Val Asn Asp Tyr Met Gln Thr Ser Asp Ser His
              260                         265                         270
Ile Tyr Ala Val Gly Glu Cys Ala Glu His Asp Gly Lys Val Tyr Gly
          275                         280                         285
Leu Val Ala Pro Leu Tyr Glu Gln Gly Lys Val Leu Ala Asp Tyr Leu
          290                         295                         300
Thr Gly Lys Glu Thr Lys Gly Tyr Lys Gly Ser Thr Thr Phe Thr Ser
305                         310                         315                         320
Leu Lys Val Ser Gly Cys Asp Leu Tyr Ser Ala Gly Gln Ile Val Glu
              325                         330                         335
Asp Glu Asp Ile His Gly Val Glu Ile Phe Asn Ser Val Asp Asn Ile
          340                         345                         350
Tyr Lys Lys Val Tyr Leu Ser His Gly Gln Val Val Gly Ala Val Leu
          355                         360                         365
Tyr Gly Asp Thr Asp Asp Gly Ser Arg Phe Tyr Asn Met Met Lys Lys
          370                         375                         380
His Glu Thr Leu Glu Asp Tyr Thr Leu Val Ser Leu Leu His Lys Gly
385                         390                         395                         400
Asp Glu Asp Ala Gly Thr Ser Ile Ala Asp Met Ser Asp Asp Glu Thr
              405                         410                         415
Ile Cys Gly Cys Asn Gly Val Asp Lys Gly Thr Ile Val Asn Ala Ile
              420                         425                         430
Thr Thr Lys Gly Leu Thr Ser Val Asp Glu Val Thr Lys Ala Thr Lys
          435                         440                         445
Ala Gly Asn Ser Cys Gly Lys Cys Lys Gly Gln Ile Gly Glu Leu Leu
          450                         455                         460
Gln Tyr Thr Leu Gly Asp Asp Phe Ile Ala Ala Lys Pro Thr Gly Ile
```

```
465                      470                      475                      480
Cys Pro Cys Thr Asp Leu Thr Arg Asp Gln Ile Val Thr Gln Ile Arg
                485                      490                      495
Ala Lys Asn Leu Lys Ser Ser Lys Glu Val Arg His Val Leu Asp Phe
                500                      505                      510
Lys Asp Lys Asp Gly Cys Pro Lys Cys Arg Pro Ala Ile Asn Tyr Tyr
                515                      520                      525
Leu Asn Met Val Tyr Pro Phe Glu His Arg Asp Glu Lys Asp Ser Arg
                530                      535                      540
Phe Ala Asn Glu Arg Tyr His Ala Asn Ile Gln Asn Asp Gly Thr Phe
545                      550                      555                      560
Ser Val Ile Pro Gln Met Arg Gly Gly Val Thr Asp Ala Asp Gln Leu
                565                      570                      575
Ile Arg Leu Gly Glu Val Ala Lys Lys Tyr Asn Val Pro Leu Val Lys
                580                      585                      590
Val Thr Gly Ser Gln Arg Val Gly Leu Tyr Gly Leu Lys Lys Glu Glu
                595                      600                      605
Leu Pro Gln Val Trp Lys Asp Leu Gly Met Arg Ser Ala Ser Ala Tyr
                610                      615                      620
Gly Lys Lys Thr Arg Ser Val Lys Ser Cys Val Gly Lys Glu Phe Cys
625                      630                      635                      640
Arg Phe Gly Thr Gln Tyr Thr Thr Arg Leu Gly Ile Arg Leu Glu Lys
                645                      650                      655
Thr Phe Glu Tyr Ile Asp Thr Pro His Lys Phe Lys Met Gly Val Ser
                660                      665                      670
Gly Cys Pro Arg Ser Cys Val Glu Ser Gly Val Lys Asp Phe Gly Val
                675                      680                      685
Ile Ser Val Glu Asn Gly Tyr Gln Ile Phe Ile Gly Gly Asn Gly Gly
                690                      695                      700
Thr Asp Val Thr Val Gly Lys Leu Leu Thr Thr Val Glu Thr Glu Asp
705                      710                      715                      720
Glu Val Ile Gln Leu Cys Gly Ala Leu Met Gln Tyr Tyr Arg Glu Thr
                725                      730                      735
Gly Val Tyr Ala Glu Arg Thr Ala Pro Trp Leu Glu Arg Met Gly Phe
                740                      745                      750
Glu Asn Val Lys Asn Val Leu Leu Asn Gln Glu Lys Gln Lys Glu Leu
                755                      760                      765
Tyr Ser Arg Ile Met Glu Ala Lys Lys Ala Val Glu Asn Glu Pro Trp
770                      775                      780
Glu Thr Ile Val Glu Asn Lys Glu Ala Gln Lys Ile Phe Glu Val Glu
785                      790                      795                      800
Lys Val
```

```
<210> 4805
<211> 112
<212> PRT
<213> S.epidermidis

<400> 4805
Ser Ile Lys Lys Lys Glu Arg Trp Leu Cys Tyr Met Val Lys Pro Arg
1               5                       10                      15
Gln Arg Gln Tyr Pro Thr Val Thr Ser Tyr Leu Asn Ile Val Arg Glu
                20                      25                      30
Ser Leu Phe Ile Thr Ile Ser Gly Val Phe Trp Met Tyr Cys Ile Val
                35                      40                      45
```

```
Val Met Ile Val Tyr Ile Gly Thr Leu Ile Asn Ser Gln Met Glu Ser
    50                  55                  60
Val Ile Thr Ile Arg Ile Ala Leu Asn Val Glu Asn Thr Glu Ile Tyr
65                  70                  75                  80
Lys Leu Phe Gly Trp Met Ser Leu Phe Val Leu Ile Ile Phe Ile Phe
                85                  90                  95
Phe Thr Phe Ser Leu Ala Phe Gln Lys Tyr Lys Lys Gly Arg Asp Ile
                100                 105                 110
```

<210> 4806
<211> 148
<212> PRT
<213> S.epidermidis

<400> 4806
```
Met Ser Lys Asn Lys Asn Asp Tyr Glu His Met Leu Phe Tyr Phe Ala
1               5                   10                  15
Tyr Lys Thr Phe Ile Thr Thr Ala Asp Glu Ile Ile Glu Gln Tyr Gly
                20                  25                  30
Met Ser Arg Gln His His Arg Phe Leu Phe Phe Ile Asn Lys Leu Pro
            35                  40                  45
Gly Ile Thr Ile Lys Glu Leu Leu Ile Thr Leu Glu Ile Ser Lys Gln
        50                  55                  60
Gly Ser His Ala Thr Leu Arg Lys Leu Lys Glu Glu Gly Leu Ile Val
65                  70                  75                  80
Glu Gln Thr Ser Lys Gln Asp Arg Arg Val Lys Lys Leu Phe Thr Thr
                85                  90                  95
Glu Ala Gly Asp Asp Leu Ile Gly Lys Leu Asn Gln Ala Gln Asp Glu
            100                 105                 110
Leu Ile Gln Gln Thr Leu Gln Lys Val Gly His Asp Trp Tyr Ala Met
            115                 120                 125
Met Glu Glu Leu Ala Asn Tyr Arg Glu Gly Phe Lys Thr Ile Glu His
        130                 135                 140
Leu Lys Glu Asp
145
```

<210> 4807
<211> 308
<212> PRT
<213> S.epidermidis

<400> 4807
```
Asn Met Lys Lys Phe Trp Gly Ile Leu Leu Ile Val Met Ser Ile Ala
1               5                   10                  15
Leu Val Gly Cys Ser Asn Ser Asn Asp Ser Asp Gln Ser Ser Asn Glu
                20                  25                  30
Lys Ser Ser Ser Lys Ser Ser Glu Lys Lys Thr Asp Val Ala Thr Glu
        35                  40                  45
Tyr Thr Lys Glu Asp Glu Tyr Lys Glu Leu Glu Lys Glu Ala Lys Asp
        50                  55                  60
Leu Lys Gln Lys Pro Val Leu Asn Glu Ile Asp Ala Leu Ile Thr Glu
65                  70                  75                  80
Lys Gly Phe Thr Asn Lys Thr Gly Leu Gln Gly Trp Glu Asp Tyr Lys
                85                  90                  95
Lys Leu Val Asp Lys Val Thr Leu Ala Asp Tyr Lys Tyr Thr Lys Glu
            100                 105                 110
```

```
Ser Lys Gly Ser Ser Ile Glu Glu Val Asn Lys Phe Phe Lys Asp Lys
    115                 120                 125
Lys Gly Val Glu Ile Lys Arg Met Lys Ser Lys Glu Lys Asn Ile Lys
    130                 135                 140
His Ile Asn Tyr Met Tyr Val Asp Pro Asp Gly Lys Lys Thr Gly Glu
145                 150                 155                 160
Asn Lys Gln Pro Met Ser Tyr Ala Gln Ile Leu Ala Thr Phe Lys Glu
                165                 170                 175
Gly Lys Leu Val Ala Thr Asn Ile Gln Pro Gly Phe Phe Ala Leu Asp
            180                 185                 190
Lys Lys Lys Met Val Lys Ala Lys Asp Leu Glu Lys Val Lys Thr Leu
            195                 200                 205
Glu Asp Leu Thr Arg Leu Lys Asp Pro Lys Ala Thr Ser Tyr Gly Ile
    210                 215                 220
Leu Gln Thr Lys Tyr Lys Gly Lys Pro Tyr Thr Gln Val Ser Ile Leu
225                 230                 235                 240
Gly Ser Asp Ser Asp Glu Glu Asn Asp Ile Ser Ser Ala Ile Leu Ala
                245                 250                 255
Tyr Tyr Leu Phe Ser Pro Thr Glu Leu Asp Ser Asp Asp Asn His Lys
            260                 265                 270
Tyr Val Glu Val Ala Ser Ala Pro Phe Leu Ser Ala Gln Asn Asp Phe
            275                 280                 285
Ser Ser Tyr Gln Leu Gly Val Phe Lys Lys Ile Ile Glu Ser Ser Met
    290                 295                 300
Ser Phe Asp Glu
305


<210> 4808
<211> 182
<212> PRT
<213> S.epidermidis

<400> 4808
Gly Val Lys Asn Met Ser Asn Ile Asn Ile Arg Val Ala His Glu Gln
1               5                   10                  15
Asp Ala Glu Glu Leu His Ser Ile Met Gln Ile Ala Phe Thr Pro Leu
            20                  25                  30
Arg Glu Leu Gly Ile Asp Trp Pro Ser Val His Ala Asp Leu Glu Met
        35                  40                  45
Val Lys Asp Asn Leu Arg Gln Asn Thr Thr Phe Val Leu Glu Asn Glu
    50                  55                  60
Lys Glu Ile Ile Ser Thr Ile Thr Val Cys Tyr Ala Trp Ser Ser Val
65                  70                  75                  80
Lys Pro Ile Ser Gly Tyr Pro Phe Val Trp Trp Phe Ala Thr Arg Pro
                85                  90                  95
Thr Tyr Asp Gly Gln Gly Tyr Gly Ser Gln Leu Leu Lys Tyr Val Glu
            100                 105                 110
Glu Thr Phe Leu Arg Asp Thr Leu Lys Ala Ala Ala Val Thr Leu Gly
            115                 120                 125
Thr Ser Ala Arg Leu His Pro Trp Leu Leu Asn Ile Tyr Glu Lys Arg
    130                 135                 140
Gly Tyr Glu Ile Tyr Ala Lys His Glu Asn Asp Asp Gly Asp Leu Gly
145                 150                 155                 160
Val Ile Met Arg Lys Ile Leu Ile Pro Glu Gln Phe Asn Asp Asp Ile
                165                 170                 175
Leu Gly Arg Pro Pro Phe
```

180

<210> 4809
<211> 422
<212> PRT
<213> S.epidermidis

<400> 4809
Lys Phe Glu Asn Leu Leu Phe Thr Leu Arg Arg Phe Phe Tyr Asn Ile
1   5   10   15
Ser Leu Ile Leu Ile Phe Asp Ile Lys Lys Arg Glu Glu Thr Leu Met
            20   25   30
Lys Asp Asn Lys Met Leu Phe Ile Ile Phe Met Ile Gly Thr Phe Thr
        35   40   45
Val Gly Met Ala Glu Tyr Val Val Thr Gly Leu Leu Thr Gln Ile Ala
        50   55   60
Asp Asp Met Lys Val Ser Ile Ser Ser Ala Gly Leu Leu Ile Ser Val
65   70   75   80
Tyr Ala Ile Ser Val Ala Leu Ile Gly Pro Leu Met Arg Ile Ile Thr
            85   90   95
Leu Lys Val His Ala His Arg Leu Leu Pro Ile Leu Val Ala Ile Phe
            100   105   110
Ile Ile Ser Asn Leu Val Gly Met Leu Ala Pro Asn Phe Asn Val Leu
        115   120   125
Leu Leu Ser Arg Leu Met Ser Ala Ala Met His Ala Pro Phe Phe Gly
        130   135   140
Val Cys Met Ser Val Ala Ala Thr Val Ala Pro Pro Ala Lys Lys Thr
145   150   155   160
Gln Ala Ile Ala Leu Val Gln Ala Gly Leu Thr Ile Ala Val Met Leu
            165   170   175
Gly Val Pro Phe Gly Ser Phe Leu Gly Gly Phe Ala Asn Trp Arg Val
            180   185   190
Val Phe Gly Phe Met Ile Val Leu Ala Ile Ile Thr Met Leu Gly Met
        195   200   205
Ile Lys Phe Val Pro Asn Val Ser Leu Ser Ala Glu Ala Asn Ile Ser
        210   215   220
Lys Glu Leu Thr Val Phe Lys Asn Pro His Ile Leu Ile Val Ile Ala
225   230   235   240
Ile Ile Val Phe Gly Tyr Ser Gly Val Phe Thr Thr Tyr Thr Phe Met
            245   250   255
Glu Pro Met Ile Arg Asp Phe Ser Pro Phe Lys Ile Val Gly Leu Thr
            260   265   270
Val Cys Leu Phe Met Phe Gly Leu Gly Gly Val Ile Gly Asn Leu Ile
        275   280   285
Thr Gly Asn Val Pro Glu Asp Lys Leu Thr Lys Asn Leu Tyr Leu Thr
        290   295   300
Phe Leu Leu Leu Phe Val Thr Ile Ile Leu Phe Val Thr Val Ile Gln
305   310   315   320
Asn Ser Ile Leu Ala Leu Ile Ile Cys Phe Leu Phe Gly Phe Gly Thr
            325   330   335
Phe Gly Thr Thr Pro Leu Leu Asn Ser Lys Ile Ile Leu Ser Ala Lys
            340   345   350
Glu Ala Pro Leu Leu Ala Ser Thr Leu Ala Ala Ser Ile Phe Asn Val
        355   360   365
Ala Asn Phe Leu Gly Ala Ile Ile Gly Ser Ile Leu Leu Ser Ile Gly
        370   375   380

```
Leu Pro Tyr Ile Gln Ile Thr Leu Ile Ser Gly Gly Ile Ile Val Leu
385             390             395             400
Gly Met Leu Leu Asn Leu Val Asn Gln Leu Tyr Glu Lys Lys His Ile
            405             410             415
Thr Phe Asn Glu Tyr Ser
            420
```

<210> 4810
<211> 310
<212> PRT
<213> S.epidermidis

<400> 4810
```
Asp Lys Glu Lys Cys Arg Ile Gln Gly Leu Arg His Met Lys Phe Ala
1               5               10              15
Tyr Ile Gln Ser Ile Arg Asn Glu Ile Ser Ile Ile Leu Ile Ile Leu
            20              25              30
Leu Phe Phe Ala Leu Ile Phe Tyr Val Phe Ser Leu Pro Phe Asp Ala
        35              40              45
Tyr Val Leu Ala Ile Ser Ile Ile Leu Leu Leu Met Cys Val Arg Trp
    50              55              60
Trp Ile Lys Tyr Leu Ser Phe Lys Lys Asn Glu His Leu Lys Asp Lys
65              70              75              80
Val Ala Tyr Leu Glu His Glu Leu Ala His Val Lys Asn Gln Gln Ile
            85              90              95
Glu Tyr Arg Asn Asp Val Glu Ser Tyr Phe Leu Thr Trp Val His Gln
            100             105             110
Ile Lys Thr Pro Ile Thr Ala Ser Gln Leu Leu Leu Glu Arg Asn Glu
        115             120             125
Glu Asn Val Val Asn Arg Val Arg Gln Glu Ile Val His Ile Asp Asn
    130             135             140
Tyr Thr Ser Leu Ala Leu Ser Tyr Leu Lys Leu Leu Asn Glu Glu Ser
145             150             155             160
Asp Met Thr Ile Thr Lys Val Thr Val Asp Asp Leu Ile Arg Pro Leu
            165             170             175
Ile Leu Lys Tyr Arg Ile Gln Phe Ile Glu Gln Lys Thr Gln Ile His
        180             185             190
Tyr Glu Lys Ser Glu Asp Ile Ile Leu Thr Asp Ala Gln Trp Ala Ser
        195             200             205
Ile Met Ile Glu Gln Leu Leu Asn Asn Ala Leu Lys Tyr Ala Lys Gly
    210             215             220
Lys Asp Ile Trp Ile Asp Phe Asp Val Ala Asn Gln Thr Leu Gln Ile
225             230             235             240
Lys Asp Asn Gly Ile Gly Ile Ser Lys Ala Asp Ile Pro Lys Ile Phe
            245             250             255
Asp Lys Gly Tyr Ser Gly Phe Asn Gly Arg Leu Asn Glu Gln Ser Thr
            260             265             270
Gly Ile Gly Leu Phe Ile Val Gln His Ile Ala Asn His Leu Asn Ile
        275             280             285
Gln Val Thr Val Gln Ser Glu Leu Asn His Gly Thr Val Phe Phe Ile
    290             295             300
His Phe Thr Lys Glu Lys
305             310
```

<210> 4811
<211> 554

<212> PRT
<213> S.epidermidis

<400> 4811
Met Ala Glu Lys Gln Tyr Ser Ala Ala Gln Met Val Ile Asp Thr Leu
1   5   10   15
Lys Asn Asn Gly Val Glu Tyr Val Phe Gly Ile Pro Gly Ala Lys Ile
            20   25   30
Asp Tyr Leu Phe Asn Ala Leu Glu Asp Asp Asp Ile Glu Leu Val Val
        35   40   45
Thr Arg His Glu Gln Asn Ala Ala Met Ile Ala Gln Gly Ile Gly Arg
    50   55   60
Leu Thr Gly Lys Pro Gly Val Ala Ile Thr Thr Ser Gly Pro Gly Val
65   70   75   80
Ser Asn Leu Thr Thr Gly Leu Leu Thr Ala Thr Ser Glu Gly Asp Pro
                85   90   95
Val Leu Ala Ile Gly Gly Gln Val Lys Arg Asn Asp Leu Leu Arg Leu
            100   105   110
Thr His Gln Ser Ile Asp Asn Ala Ser Leu Leu Arg Ser Ser Thr Lys
        115   120   125
Tyr Ser Ala Glu Val Gln Asp Pro Glu Ser Leu Ser Glu Val Ile Thr
    130   135   140
Asn Ala Met Arg Thr Ala Thr Ser Gly Lys Asn Gly Ala Ser Phe Ile
145   150   155   160
Ser Ile Pro Gln Asp Val Ile Ser Ser Pro Val Lys Ala Asp Ala Ile
                165   170   175
Ser Leu Cys Gln Lys Pro His Leu Gly Val Pro Ser Glu Gln Glu Ile
            180   185   190
Asn Glu Val Ile Glu Ala Ile Lys Asn Ser Lys Phe Pro Val Leu Leu
            195   200   205
Ala Gly Met Arg Ser Ser Ser Gln Ala Glu Thr Glu Ala Ile Arg Arg
        210   215   220
Leu Val Gln Lys Thr Asn Leu Pro Val Val Glu Thr Phe Gln Gly Ala
225   230   235   240
Gly Val Ile Ser Arg Glu Leu Glu Asn His Phe Phe Gly Arg Val Gly
                245   250   255
Leu Phe Arg Asn Gln Val Gly Asp Glu Leu Leu Arg Lys Ser Asp Leu
            260   265   270
Val Ile Thr Ile Gly Tyr Asp Pro Ile Glu Tyr Glu Ala Ser Asn Trp
        275   280   285
Asn Lys Glu Leu Asp Thr Lys Ile Ile Asn Val Asp Glu Glu His Ala
        290   295   300
Glu Ile Thr Asn Tyr Met Gln Pro Val Lys Glu Leu Ile Gly Asn Ile
305   310   315   320
Ala Gly Thr Ile Asp Met Ile Ser Glu His Val Asn Glu Pro Phe Ile
                325   330   335
Asn Gln Asp His Leu Asp Glu Leu Glu Lys Leu Arg Gly Glu Ile Thr
            340   345   350
Glu Ala Thr Gly Ile Lys Ala Thr His Lys Glu Gly Val Met His Pro
        355   360   365
Val Glu Ile Ile Glu Thr Met Gln Lys Val Leu Thr Asp Asp Thr Thr
    370   375   380
Val Thr Val Asp Val Gly Ser His Tyr Ile Trp Met Ala Arg Lys Tyr
385   390   395   400
Arg Ser Tyr Asn Pro Arg His Leu Leu Phe Ser Asn Gly Met Gln Thr
                405   410   415

```
Leu Gly Val Ala Leu Pro Trp Ala Ile Ser Ala Ala Leu Val Arg Pro
            420                 425                 430
Asn Thr Gln Val Val Ser Val Ala Gly Asp Gly Gly Phe Leu Phe Ser
            435                 440                 445
Gly Gln Glu Leu Glu Thr Ala Val Arg Lys Asn Leu Asn Ile Ile Gln
            450                 455                 460
Leu Ile Trp Asn Asp Gly Arg Tyr Asn Met Val Glu Phe Gln Glu Glu
465                 470                 475                 480
Met Lys Tyr Lys Arg Ser Ser Gly Val Glu Phe Gly Pro Val Asp Tyr
            485                 490                 495
Val Lys Tyr Ala Glu Ser Phe Gly Ala Lys Gly Leu Arg Val Thr Asn
            500                 505                 510
Gln Glu Glu Leu Glu Ala Ala Leu Lys Glu Gly Tyr Glu Thr Asp Gly
            515                 520                 525
Pro Val Leu Ile Asp Ile Pro Val Asn Tyr Ala Asp Asn Val Lys Leu
            530                 535                 540
Ser Thr Asn Met Leu Pro Asn Ala Leu Asn
545                 550
```

```
<210> 4812
<211> 401
<212> PRT
<213> S.epidermidis
```

```
<400> 4812
Leu Ile Gly Lys Gly Asp Leu Ile Ile Met Ser Asn Asn Glu Thr Ile
1               5                   10                  15
Thr Asn Tyr Thr Ile Lys Pro His Gly Gly Glu Leu Ile Asn Arg Val
            20                  25                  30
Val Glu Gly Asn Glu Arg Glu Arg Leu Ile Glu Glu Ala Leu Lys Phe
            35                  40                  45
Lys Pro Ile Thr Leu Asn Pro Trp Gly Ile Ser Asp Leu Glu Leu Ile
            50                  55                  60
Gly Ile Gly Gly Phe Ser Pro Leu Thr Gly Phe Met Asn Lys Glu Asp
65                  70                  75                  80
Tyr Thr Lys Val Ile Glu Glu Thr His Leu Ser Asn Gly Leu Val Trp
            85                  90                  95
Ser Ile Pro Ile Thr Leu Pro Val Thr Glu Ser Glu Ala Asp Lys Leu
            100                 105                 110
Glu Ile Gly Asp Asp Ile Ala Leu Tyr Gly Glu Asp Gly Gln Leu Tyr
            115                 120                 125
Gly Thr Leu Lys Leu Glu Glu Lys Tyr Thr Tyr Asp Lys Glu Lys Glu
            130                 135                 140
Ala Arg Leu Val Tyr Gly Thr Thr Glu Glu Ala His Pro Gly Val Lys
145                 150                 155                 160
Lys Val Tyr Glu Lys Gly Asn Ile Tyr Leu Gly Gly Pro Ile Lys Leu
            165                 170                 175
Leu Asn Arg Pro Lys His Asp Ala Phe Ser Asn Tyr His Leu Asp Pro
            180                 185                 190
Ser Glu Thr Arg Gln Leu Phe His Asp Leu Gly Trp Lys Thr Val Val
            195                 200                 205
Gly Phe Gln Thr Arg Asn Pro Val His Arg Ala His Glu Tyr Ile Gln
            210                 215                 220
Lys Ser Ala Leu Glu Ile Val Asp Gly Leu Leu Leu Asn Pro Leu Val
225                 230                 235                 240
Gly Glu Thr Lys Ser Asp Asp Ile Pro Ala Asp Val Arg Met Glu Ser
```

```
                     245                    250                    255
Tyr Glu Val Ile Leu Lys Asn Tyr Tyr Pro Glu Asp Arg Ala Arg Leu
            260                    265                    270
Val Ile Tyr Pro Ala Ala Met Arg Tyr Ala Gly Pro Arg Glu Ala Ile
            275                    280                    285
Leu His Ala Thr Val Arg Lys Asn Tyr Gly Cys Thr His Phe Ile Val
            290                    295                    300
Gly Arg Asp His Ala Gly Val Gly Asp Tyr Tyr Gly Thr Tyr Glu Ala
305                    310                    315                    320
Gln Glu Leu Ile Thr Gln Phe Glu Asp Glu Leu Gly Ile Gln Ile Leu
            325                    330                    335
Lys Phe Glu His Ala Phe Tyr Cys Glu Ala Cys Gly Asn Met Ala Thr
            340                    345                    350
Ala Lys Thr Cys Pro His Asp Ala Ser Gln His Leu His Leu Ser Gly
            355                    360                    365
Thr Lys Val Arg Glu Lys Leu Arg Asn Gly Glu Ser Leu Pro Thr Lys
            370                    375                    380
Phe Ser Arg Pro Glu Val Ala Glu Val Leu Ile Lys Gly Leu Arg Glu
385                    390                    395                    400
Lys
```

<210> 4813
<211> 231
<212> PRT
<213> S.epidermidis

<400> 4813

```
Gly Glu Cys Leu Met Met Ala Lys Ser Tyr Asp Tyr Gln Ser Ala Phe
1               5                    10                     15
Asp Ile Ile Gly Pro Val Met Met Gly Pro Ser Ser Ser His Thr Ala
            20                     25                     30
Gly Ala Val Lys Ile Gly Asn Ser Ala Arg Ala Val Leu Gly Asp Met
            35                     40                     45
Pro Lys His Ile Glu Ile Arg Tyr Tyr Glu Ser Phe Ala Lys Thr His
        50                     55                     60
Gln Gly His Gly Thr Asp Val Ala Ile Val Gly Gly Ala Met Gly Tyr
65                     70                     75                     80
Ser Thr Phe Asp Ser Arg Ile Lys Ser Ser Leu Asp Ile Ala Lys Asp
            85                     90                     95
Glu Asn Ile Thr Ile Asp Ile Ile Glu Asp Glu Gly Glu Ser Ile Gly
            100                    105                    110
Gln His Pro Asn Cys Ala Tyr Ile Lys Ala Asn Thr Lys Asp Gly Arg
            115                    120                    125
Tyr Ile Glu Val Ile Gly Ile Ser Ile Gly Gly Gly Thr Ile Lys Leu
            130                    135                    140
Lys Gly Ile Asn Val Asn Gly Leu Asn Val Glu Leu Asn His Gly Leu
145                    150                    155                    160
Pro Met Leu Val Ile Asp Gly Asn Met Asn Lys Ala Lys Ile Asn His
            165                    170                    175
Leu Ile Asn Asp Leu Ser Asp Met Asp Leu Asp Leu Gly Glu Glu Leu
            180                    185                    190
Ile Glu Thr Asn Asp Asn Glu Gly Leu Val Val Phe Pro Leu Asn Lys
            195                    200                    205
Ala Ile Ser Glu Ser Ala Leu Asn Ile Ile Lys Asp Lys His Ser Asp
        210                    215                    220
```

```
Leu Asn Val Ser Tyr Ile Lys
225                 230


<210> 4814
<211> 357
<212> PRT
<213> S.epidermidis


<400> 4814
Arg Ser Leu Lys Leu Tyr Gly Arg Asp Ile Asp His Asn Ser Pro Phe
1               5                   10                  15
Tyr Lys Gly Asn Lys Ser Val Arg Glu Gly Asp Ile Val Lys Gln Asp
            20                  25                  30
Lys Leu Ala Asn Thr Leu Thr Lys Ile Lys Asp Lys Gly Pro Asp Tyr
        35                  40                  45
Phe Tyr Glu Asp Ile Gly Lys Ser Val Ser Lys Gln Leu Asp Asn Lys
    50                  55                  60
Leu Thr Glu Arg Asp Phe Lys Glu Phe Lys Thr Glu Glu Lys Glu Ala
65                  70                  75                  80
Val Ser Thr Asp Tyr Lys Asn Asn Gln Val Tyr Ser Ala Pro Asn Pro
            85                  90                  95
Leu Gly Gly Thr Leu Met Leu Gln Gly Leu Lys Ile Asp Glu Lys Glu
            100                 105                 110
Asn Val Asp Asn Met Asp Arg Asn Asn Phe Ile Thr Ala Met Ile Lys
            115                 120                 125
Ser Arg Asp Val Met Tyr Lys Asn Arg Asp Ile Val Asn Gly Asn Glu
    130                 135                 140
Pro Ser Asn Glu Gln His Leu Thr Asp Asp Tyr Leu Leu Gly Glu Leu
145                 150                 155                 160
Asn Lys Val Asn Ile Gly Glu Asn Thr Asp Asn Gly Ser Asp Phe Asp
            165                 170                 175
Gln Ile Arg Thr Asp Asn Thr Ser Thr Thr His Phe Val Val Ile Asp
            180                 185                 190
Lys Asn Gly Lys Leu Ala Ser Thr Thr Asn Thr Leu Ser Ser Tyr Phe
            195             .   200                 205
Gly Thr Gly Asp Tyr Met Lys Glu Gly Phe Tyr Met Asn Asn Ser Leu
    210                 215                 220
Gly Asp Phe Ser Lys Asp Lys Ser Ser Pro Asn His Gly Glu Pro His
225                 230                 235                 240
Lys Ala Pro Arg Ser Phe Ile Ser Pro Ser Val Ile Val Gly Pro Asn
            245                 250                 255
Phe Tyr Met Gly Ile Gly Thr Pro Gly Gly Asn Lys Ile Pro Thr Ile
            260                 265                 270
Leu Asn Glu Val Ile Val Asp Tyr Leu Asn Ser Asp Gly Ser Leu Gln
            275                 280                 285
Glu Ser Ile Asn Lys Pro Arg Phe Tyr Asn Asp Gly Gly Thr Ile Phe
    290                 295                 300
Tyr Glu Asn Ala Met Thr Asp Glu Asp Ile Asn Ile Phe Lys Ser Leu
305                 310                 315                 320
Gly Tyr Gly Val Glu Glu Lys His Asn Asp Pro Asn Phe Gly Ser Val
            325                 330                 335
Gln Gly Ala Val Tyr Asp Lys Asp Lys Asn Thr Val Asp Val Gly His
            340                 345                 350
Asp Val Gly Asn Arg
            355
```

```
<210> 4815
<211> 80
<212> PRT
<213> S.epidermidis

<400> 4815
Phe Gln Leu Asn Pro Asn Lys Phe Phe Phe Phe Phe Glu Ser Leu
1               5                   10                  15
Trp Gly Ala Asn Lys Lys Gly Asn Lys Lys Gly Val Ile Ser Gly Ala
            20                  25                  30
Phe Phe Phe Tyr Ser Ile Lys Pro Tyr Leu Ser Asn Ser Thr Thr Glu
            35                  40                  45
Gly Asp Arg Trp Val Phe Gln Leu Leu Ile Gly Ala Ile Ser Arg Cys
        50                  55                  60
Arg Lys Pro Val Gly Pro Leu Ala Asp Lys Leu Gly Ser Ser Thr Val
65                  70                  75                  80

<210> 4816
<211> 274
<212> PRT
<213> S.epidermidis

<400> 4816
Asn Glu Leu Lys Thr Leu Asn His Leu Asn Lys Met Lys Ala Ser Gln
1               5                   10                  15
Gln Lys Ile Ser Met Val Thr Ala Tyr Asp Tyr Pro Ser Ala Lys Gln
            20                  25                  30
Ala Gln Gln Ala Glu Ile Asp Met Ile Leu Val Gly Asp Ser Leu Gly
            35                  40                  45
Met Thr Val Leu Gly Tyr Asp Ser Thr Val Gln Val Thr Leu Asn Asp
        50                  55                  60
Met Ile His His Gly Lys Ala Val Lys Arg Gly Ala Ser Asp Thr Phe
65                  70                  75                  80
Ile Val Val Asp Met Pro Ile Gly Thr Val Gly Leu Ser Asp Glu Glu
                85                  90                  95
Asp Leu Lys Asn Ala Leu Lys Leu Tyr Gln Asn Thr Asn Ala Asn Ala
            100                 105                 110
Val Lys Val Glu Gly Ala His Leu Thr Ser Phe Ile Gln Lys Ala Thr
            115                 120                 125
Lys Met Gly Ile Pro Val Val Ser His Leu Gly Leu Thr Pro Gln Ser
        130                 135                 140
Val Gly Val Met Gly Tyr Lys Leu Gln Gly Asp Thr Lys Thr Ala Ala
145                 150                 155                 160
Met Gln Leu Ile Lys Asp Ala Lys Ala Met Glu Thr Ala Gly Ala Val
                165                 170                 175
Val Leu Val Leu Glu Ala Ile Pro Ser Asp Leu Ala Arg Glu Ile Ser
            180                 185                 190
Gln Gln Leu Thr Ile Pro Val Ile Gly Ile Gly Ala Gly Lys Asp Thr
        195                 200                 205
Asp Gly Gln Val Leu Val Tyr His Asp Met Leu Asn Tyr Gly Val Asp
    210                 215                 220
Arg His Ala Lys Phe Val Lys Gln Phe Ala Asp Phe Ser Ser Gly Ile
225                 230                 235                 240
Asp Gly Leu Arg Gln Tyr Asn Glu Glu Val Lys Ala Gly Thr Phe Pro
                245                 250                 255
Ser Glu Asn His Thr Tyr Lys Lys Arg Ile Met Asp Glu Val Glu Gln
```

```
                 260                    265                          270
His Asp
```

```
<210> 4817
<211> 172
<212> PRT
<213> S.epidermidis
```

```
<400> 4817
Tyr Ile Met Lys Arg Phe Ala Lys Ala Phe Val Val Ser Gly Ile Thr
1               5                   10                  15
Leu Gly Ala Val Leu Gly Leu Asn Val Thr Glu His Asn Gly Val Ser
            20                  25                  30
Asn Glu Ala Lys Ala Gln Thr Ala His Ser Tyr Trp Tyr Lys Tyr Asn
        35                  40                  45
Gly Tyr Thr Ala Ser Gly Gly Asp Phe Val Leu Ser Asn Ser Phe Tyr
    50                  55                  60
Gln Gly Leu Lys Ala Gly Asn Val Thr Phe Asn Gly Ile Lys Val Asn
65                  70                  75                  80
Gln Lys Tyr Glu Ser Lys Thr Ala Thr Lys Lys Ile Tyr Asp Gln Thr
                85                  90                  95
Phe Gln Gln Ile Asn Gly Asn Lys Ala Asn Asn Val Gln Phe Lys Ile
            100                 105                 110
Ala Ser Arg Thr Val Thr Leu Asp Gln Val Lys Gln Lys Tyr Gly Lys
            115                 120                 125
Asn Tyr Asn Tyr Gln Pro Ser Leu Ser Lys Asn Lys Thr Ser Lys Thr
        130                 135                 140
Asp Gly Leu Tyr Gly Tyr Gln Val Gly Lys Gly Asn Ile Val Phe His
145                 150                 155                     160
Val Lys Asp Gly Tyr Val Thr Ser Ala Thr Leu Ser
                165                 170
```

```
<210> 4818
<211> 223
<212> PRT
<213> S.epidermidis
```

```
<400> 4818
Thr Tyr Met Lys Ile Phe Ile Val Glu Asp Asp Leu Val Ile Ala Glu
1               5                   10                  15
Ser Leu Ala Asn Glu Leu Ser Lys Trp Asn Tyr Glu Val His Val Val
            20                  25                  30
Asp Asn Phe Glu Lys Ile Met Glu Asp Phe Arg Arg Val Glu Pro Gln
        35                  40                  45
Leu Val Leu Leu Asp Ile Asn Leu Pro Thr Leu Asn Gly Phe His Trp
    50                  55                  60
Cys Gln Glu Met Arg Lys Val Ser His Val Pro Ile Met Phe Ile Ser
65                  70                  75                  80
Ser Arg Thr Asp Asn Met Asp Gln Ile Leu Ala Ile Gln Met Gly Gly
                85                  90                  95
Asp Asp Phe Ile Glu Lys Pro Phe Asn Leu Ser Leu Thr Val Ala Lys
            100                 105                 110
Ile Gln Ala Leu Leu Arg Arg Thr Tyr Asp Leu Ser Ile Ala Arg Asp
            115                 120                 125
Glu Ile Ala Val Lys Gly Cys Lys Leu Ile Val Asp Glu Ala Lys Leu
```

```
            130                     135                     140
Ser Lys Asp Asn Glu His Val Gln Leu Ser Leu Thr Glu Leu Gln Ile
145                     150                     155                     160
Leu Lys Leu Leu Phe Gln Asn Glu Asn Lys Tyr Val Ser Arg Thr Ala
                    165                     170                     175
Leu Ile Glu Lys Cys Trp Glu Ser Glu Asn Phe Ile Asp Asp Asn Thr
                    180                     185                     190
Leu Ala Val Asn Met Thr Arg Leu Arg Lys Lys Leu Leu Ser Ile Gly
                    195                     200                     205
Val Asp Asp Leu Ile Glu Thr Lys Lys Asn Val Gly Tyr Arg Val
                    210                     215                     220
```

<210> 4819
<211> 231
<212> PRT
<213> S.epidermidis

<400> 4819
```
Ser Leu Met Asn Glu Tyr Leu Gln Ala Val Leu Met Ile Leu Leu Thr
1                   5                       10                      15
Ile Val Leu Tyr Tyr Val Ser Lys Lys Ile Gln Asp Lys Tyr Asn Asn
                    20                      25                      30
Pro Leu Leu Asn Pro Ala Leu Ile Ala Ser Ile Ala Ile Ile Ile Val
            35                      40                      45
Leu Leu Val Cys Gly Val Ser Tyr Lys Gly Tyr Met Lys Gly Gly Thr
        50                      55                      60
Trp Ile Asn His Val Leu Asn Ala Thr Val Val Cys Leu Ala Tyr Pro
65                      70                      75                      80
Leu Tyr Gln Asn Lys Lys Lys Ile Lys Lys Tyr Leu Thr Ile Ile Phe
                    85                      90                      95
Thr Ser Val Leu Thr Gly Val Val Leu Asn Phe Val Leu Val Phe Thr
                    100                     105                     110
Thr Leu Lys Ile Phe Gly Tyr Ser Lys Asp Thr Ile Val Thr Leu Leu
            115                     120                     125
Pro Arg Ser Ile Thr Ala Ala Val Gly Ile Glu Val Ser Gln Glu Leu
        130                     135                     140
Gly Gly Thr Asp Thr Ile Thr Val Leu Phe Ile Ile Thr Thr Gly Leu
145                     150                     155                     160
Ile Gly Ser Ile Leu Gly Ser Met Leu Leu Arg Met Gly Gly Phe Lys
                    165                     170                     175
Ser Ser Ile Ala Arg Gly Leu Thr Tyr Gly Asn Ala Ser His Ala Phe
                    180                     185                     190
Gly Thr Ala Lys Ala Leu Glu Leu Asp Ile Glu Ser Gly Ala Phe Ser
            195                     200                     205
Ser Ile Gly Met Ile Leu Thr Ala Val Ile Ser Ser Val Leu Ile Pro
        210                     215                     220
Val Leu Ile Leu Leu Phe Tyr
225                     230
```

<210> 4820
<211> 449
<212> PRT
<213> S.epidermidis

<400> 4820
```
Glu Leu Met Lys Gln Tyr Asp Val Val Phe Leu Gly Ser Gly His Ala
```

```
1                   5                   10                  15
Ala Trp His Ala Ala Leu Thr Leu Lys Gln Ser Gly Lys Gln Val Ala
                20                  25                  30
Ile Val Glu Lys Asp Thr Ile Ala Gly Thr Cys Thr Asn Tyr Gly Cys
        35                  40                  45
Asn Ala Lys Ile Leu Leu Glu Gly Pro Tyr Glu Val Leu Glu Glu Ala
        50                  55                  60
Lys Gln Tyr Pro Asn Ile Ile Asp Ser His Asn Leu Glu Val Asn Trp
65                  70                  75                  80
Lys Asn Leu Met Arg Tyr Lys Glu Lys Val Ile Asn Pro Met Ser Glu
                85                  90                  95
Thr Leu Thr Ser Met Phe Glu Gln Gln Glu Ile Asp Val Ile Met Gly
                100                 105                 110
Lys Gly Lys Leu Val Asp Ala His Thr Ile Glu Val Asn Asn Thr Thr
            115                 120                 125
Leu Gln Ser Asp Tyr Ile Val Ile Ala Thr Gly Gln His Ser His Gln
        130                 135                 140
Leu Asp Ile Glu Gly Lys Glu Tyr Thr His Asp Ser Arg Glu Phe Leu
145                 150                 155                 160
Ser Met Gln Ser Leu Pro Asp Ser Ile Thr Phe Ile Gly Ala Gly Ile
                165                 170                 175
Ile Ser Ile Glu Phe Ala Ser Ile Met Ile Lys Ser Gly Val Glu Val
            180                 185                 190
Asn Val Ile His His Thr Asn Gln Ala Leu Glu Gly Phe Asn Glu Ser
            195                 200                 205
His Val Asn Lys Leu Ile Gln Lys Leu Lys Asp Glu Gly Val Lys Phe
        210                 215                 220
Tyr Phe Ser Glu Asn Thr Lys Ser Val Lys Pro Asn Ala Gln Arg Phe
225                 230                 235                 240
Ile Val Glu Thr Glu Ser Gly Lys Met Ile Glu Thr Asp Tyr Val Leu
                245                 250                 255
Asp Ala Thr Gly Arg Lys Pro Asn Val Gln Gln Ile Gly Leu Glu Lys
                260                 265                 270
Val Gly Ile Gln Phe Ser Asp Arg Gly Ile Glu Val Asp Asp Tyr Leu
            275                 280                 285
Arg Thr Asn Val Lys Asn Ile Tyr Ala Ser Gly Asp Val Ile Asn Lys
        290                 295                 300
Met Ile Pro Lys Leu Thr Pro Thr Ala Thr Phe Glu Ser Asn Tyr Ile
305                 310                 315                 320
Ala Ala His Ile Leu Gly Leu Asn Thr Asp Ala Ile Gln Tyr Pro Pro
            325                 330                 335
Ile Pro Ser Val Leu Tyr Ser Leu Pro Arg Leu Ser Gln Ile Gly Val
            340                 345                 350
Thr Val Ser Glu Ala Lys Lys Asp Asp Thr Tyr Met Ile Lys Asp Ile
            355                 360                 365
Pro Phe Gly Arg Gln Met Val Phe Glu Tyr Gln Asn Glu Thr Glu Ala
        370                 375                 380
Glu Met Ser Ile Val Leu Asp Ser His Lys Arg Leu Val Gly Ala Glu
385                 390                 395                 400
Ile Tyr Gly Asn Asp Ala Gly Asp Leu Val Asn Leu Leu Val Phe Ile
            405                 410                 415
Ile Asn Gln Lys Leu Thr Ala Gln Asp Leu Asn Lys Asn Ile Phe Ala
            420                 425                 430
Phe Pro Gly Ala Ser Ser Gly Val Ile Asp Leu Leu Lys Leu Ala Met
            435                 440                 445
Met
```

```
<210> 4821
<211> 381
<212> PRT
<213> S.epidermidis

<400> 4821
Ile Lys Met Asn Met Lys Lys Gly Val Ser Gln Leu Thr Leu Gln Thr
1               5                   10                  15
Leu Ser Leu Val Ala Gly Phe Met Ala Trp Ser Ile Ile Ser Pro Leu
            20                  25                  30
Met Pro Phe Ile Ser Gln Asp Val Asp Ile Ser Pro Gly Gln Ile Ser
            35                  40                  45
Val Ile Leu Ala Ile Pro Val Ile Leu Gly Ser Val Leu Arg Val Pro
        50                  55                  60
Phe Gly Tyr Leu Thr Asn Ile Val Gly Ala Lys Trp Val Phe Phe Trp
65                  70                  75                  80
Ser Phe Ile Val Leu Leu Leu Pro Ile Phe Leu Leu Gly Gln Ala Gln
                85                  90                  95
Ser Pro Gly Met Leu Met Leu Ser Gly Phe Phe Leu Gly Ile Gly Gly
            100                 105                 110
Ala Phe Phe Ser Val Gly Val Thr Ser Val Pro Lys Tyr Phe Ser Lys
            115                 120                 125
Asp Lys Val Gly Leu Ala Asn Gly Ile Tyr Gly Val Gly Asn Ile Gly
        130                 135                 140
Thr Ala Val Ser Ser Phe Cys Ala Pro Val Leu Ala Gly Ala Ile Gly
145                 150                 155                 160
Trp Gln Asn Thr Val Arg Ser Tyr Leu Ile Ile Leu Ser Ile Phe Ala
            165                 170                 175
Ile Leu Met Phe Phe Leu Gly Asp Lys Asn Glu Pro Lys Val Lys Ile
            180                 185                 190
Pro Leu Met Ala Gln Val Lys Asp Leu Ser Lys Asn Tyr Lys Leu Tyr
        195                 200                 205
Tyr Leu Ser Leu Trp Tyr Phe Ile Thr Phe Gly Ala Phe Val Ala Phe
        210                 215                 220
Gly Ile Phe Leu Pro Asn Phe Leu Val Asp His Phe Ser Ile Asp Lys
225                 230                 235                 240
Val Asp Ala Gly Ile Arg Ser Gly Ile Phe Ile Ala Leu Ala Thr Phe
            245                 250                 255
Leu Arg Pro Val Gly Gly Val Ile Gly Asp Lys Phe Asn Ala Val Gln
            260                 265                 270
Ala Leu Ile Ile Asp Phe Val Ile Met Ile Ile Gly Ala Leu Ile Leu
        275                 280                 285
Ser Leu Ser Ser His Ile Val Leu Phe Thr Ile Gly Cys Leu Ala Ile
        290                 295                 300
Ser Ile Cys Ala Gly Ile Gly Asn Gly Leu Ile Phe Lys Leu Val Pro
305                 310                 315                 320
Ser Tyr Phe Ser Lys Glu Thr Arg Phe Ser Glu Trp Tyr Cys Ile His
            325                 330                 335
Asp Gly Arg Asn Arg Arg Phe Leu Pro Thr Thr Gly Asp Tyr Phe Cys
        340                 345                 350
Asn Glu Tyr His Trp Phe Lys Ser Ser Arg Phe Leu Leu Leu Gly Tyr
        355                 360                 365
Ile Trp Cys Asn Cys Ser Tyr Tyr Asn Asp Ser Phe Lys
        370                 375                 380
```

<210> 4822
<211> 155
<212> PRT
<213> S.epidermidis

<400> 4822
Ile Glu Met Lys Gly Cys Leu Met Leu Ile Ser Asp Thr Asn Lys Thr
1   5   10   15
Tyr Ile Ile Glu Glu Thr Ser Asn Ser Phe Thr Ile Glu Lys Asn Asn
            20   25   30
Asp Gln Gln His Tyr Glu Val Leu Glu Ser Ile Asn Ser Leu Ser Asn
            35   40   45
Asp Ser Phe Cys Val Leu Asn His Leu Phe Val Asn Gly Gly Asn Glu
        50   55   60
Glu Val Phe Glu Ser Arg Phe Leu Lys Arg Asn Gln His Leu Gln Asp
65   70   75   80
Val Pro Gly Phe Lys Ala Leu Arg Phe Leu Arg Pro Val Val Lys Gly
                85   90   95
Arg His Tyr Ile Ile Ile Thr Leu Trp Asn Ser Arg Gln Ala Phe Tyr
                100   105   110
Asp Trp Gln Asn Ser Gln Ala Tyr Ala Gln Thr His Lys Lys Arg Gly
            115   120   125
Thr Gln Lys Gly Val Asp His Arg Ile Val Asn Arg Asp Leu Ser Tyr
        130   135   140
Asn Ile Arg Ile Glu Leu Glu Ser Leu Asn Asn
145   150   155

<210> 4823
<211> 57
<212> PRT
<213> S.epidermidis

<400> 4823
Leu Glu Met Lys Asn Tyr Ser His Arg Lys Leu Ala Val Glu Pro Ile
1   5   10   15
Trp Gly Phe Met Lys Val Ile Leu Gly Phe Thr Gln Val Ser Ala Arg
            20   25   30
Ser Ile Asn Lys Val Lys Gly Lys Lys Phe Leu Leu Met Val Leu Asn
            35   40   45
Ile Lys Lys Asn Ser Asp Ser Glu Ile
        50   55

<210> 4824
<211> 538
<212> PRT
<213> S.epidermidis

<400> 4824
Lys Gly Met Asn Lys Asn Ile Lys Met Lys Asn Lys Arg Lys Ile Asn
1   5   10   15
Asn Thr Leu Val Tyr Thr Ile Ser Val Leu Ile Ile Val Val Ile Thr
            20   25   30
Leu Ile Ala Gly Ile Phe Pro Lys Ala Phe Gly Met Tyr Ala Gln Ser
        35   40   45
Val Tyr Asp Trp Ile Thr Asn Trp Phe Gly Trp Leu Phe Leu Ile Ile

```
        50                      55                      60
Val Phe Ile Leu Asp Val Phe Leu Ile Phe Leu Ala Phe Ser Arg Tyr
65                      70                      75                      80
Gly Arg Phe Lys Leu Gly Ser Asp Glu Glu Glu Pro Glu Phe Ser Met
                        85                      90                      95
Leu Ser Trp Ile Gly Met Leu Phe Ser Ala Gly Leu Gly Val Gly Ile
                100                     105                     110
Val Phe Trp Gly Val Ala Glu Pro Leu Thr His Tyr Leu His Ser Pro
            115                     120                     125
Phe Pro Gly Lys Ile Ala Asp His Ser Glu Glu Ser Ala Arg Val Ala
            130                     135                     140
Met Gly Tyr Thr Phe Phe His Trp Gly Ile Ser Gln Trp Ser Ile Phe
145                     150                     155                     160
Ala Ile Ser Gly Leu Ile Val Ala Tyr Phe Gln Phe Arg Lys Gln Arg
                165                     170                     175
Asn Gly Leu Ile Ser Thr Ala Met Glu Pro Val Phe Gly Glu Ala Tyr
                180                     185                     190
Lys Arg Pro Phe Arg Asn Ile Ile Asp Ile Leu Ala Ile Ile Ala Thr
                195                     200                     205
Val Met Gly Ile Ala Thr Ser Ile Gly Leu Gly Ile Met Gln Ile Gly
            210                     215                     220
Gly Gly Leu Asn His Leu Phe Asp Val Pro Asn Asn Asn Phe Thr Lys
225                     230                     235                     240
Ile Leu Ile Thr Ile Leu Met Val Ala Ile Phe Leu Gly Ser Ser Leu
                245                     250                     255
Thr Gly Leu Asn His Gly Val Lys Trp Leu Ser Asn Leu Asn Ile Leu
                260                     265                     270
Leu Gly Ala Ile Leu Leu Ile Phe Ile Leu Ile Phe Gly Asp Leu Lys
            275                     280                     285
Phe Ile Leu Glu Ser Tyr Thr Leu Ala Ile Ser Asp Tyr Leu Gln His
            290                     295                     300
Phe Ile Glu Tyr Ser Leu Arg Val Asn Pro Tyr Ser Gly Asp Asp Ser
305                     310                     315                     320
Trp Ile Gln Gln Trp Thr Val Phe Tyr Trp Ala Trp Val Ile Ser Trp
                325                     330                     335
Ser Pro Phe Ile Gly Gly Phe Val Ala Arg Val Ser Arg Gly Arg Thr
                340                     345                     350
Ile Arg Glu Phe Val Val Gly Val Leu Ile Ile Pro Pro Leu Ile Ser
            355                     360                     365
Phe Thr Trp Ile Ala Gly Phe Gly Gly Thr Ala Ile Lys Leu Ala Leu
            370                     375                     380
Asn His Asn Asp Lys Leu Val His Ile Val Asp Lys Asp Tyr Thr Val
385                     390                     395                     400
Ala Leu Phe Glu Leu Leu Ser His Phe Pro Leu Ser Glu Val Thr Ser
                405                     410                     415
Ser Leu Ala Ile Val Leu Ile Phe Ile Phe Ile Val Thr Ser Ala Asp
                420                     425                     430
Ser Thr Thr His Ile Val Ala Gly Met Ala Thr Gly Gly Ser Ile Asn
            435                     440                     445
Pro Thr Leu Lys His Lys Val Leu Trp Gly Leu Leu Ile Gly Ala Ile
            450                     455                     460
Ser Val Ala Met Thr Ile Ala Gly Gly Leu Lys Ser Leu Gln Thr Ala
465                     470                     475                     480
Ser Val Ile Thr Gly Leu Pro Phe Ser Ile Ile Leu Leu Leu Met Ile
                485                     490                     495
Phe Ser Leu Met Arg Ala Leu Lys Arg Glu Pro Ile His His Phe Lys
```

<pre>
              500   505   ·   510
Met Thr Ser Ile Asp Asp Glu Lys Asp Tyr Ser Ile Ser Leu Glu Glu
        515   ·   520   525
Arg Glu Lys Gln Asp Glu Gln Asp Asn Lys
    530   535
</pre>

<210> 4825
<211> 497
<212> PRT
<213> S.epidermidis

<400> 4825

<pre>
Thr Met Val Lys Glu Val Val Leu Gly Ile Asp Leu Gly Thr Ser Ala
1   5   10   15
Ile Lys Ile Ile Ala Val Asp Gln Leu Gly Asn Val Ile Glu Ser Val
            20   25   30
Ser Glu Thr Leu Lys Leu Tyr Gln Glu His Pro Gly Tyr Ser Glu Gln
        35   40   45
Asp Pro Asn Glu Trp Phe Glu Ala Thr Lys Lys Gly Ile Lys Glu Leu
        50   55   60
Ile Gln Ser Thr Glu Met Ser Asp Lys Ile Val Lys Gly Ile Ser Phe
65   70   75   80
Ser Gly Gln Met His Gly Leu Val Ile Val Asp Asp Asn Gly Ile Pro
                85   90   95
Leu Arg Lys Ala Ile Leu Trp Asn Asp Thr Arg Asn Ser Ile Gln Cys
            100   105   110
Arg Gln Ile Glu Asp Ile Tyr Gly Glu Arg Leu Asn Tyr Asn Pro Ile
            115   120   125
Leu Glu Gly Phe Thr Leu Pro Lys Met Leu Trp Val Gln Gln His Glu
        130   135   140
Pro Glu Ile Trp Asn Arg Val Asp Val Phe Met Leu Pro Lys Asp Tyr
145   150   155   160
Leu Arg Tyr Cys Leu Thr Gln Thr Ile His Met Glu Tyr Ser Asp Ala
            165   170   175
Cys Ser Thr Leu Leu Phe Asn Pro Glu Asn Tyr Glu Trp Thr Arg Asp
            180   185   190
Val Gly Asp Thr Phe Asn Ile Gly Asp Ile Tyr Pro Pro Leu Val Lys
            195   200   205
Ser His Ser Tyr Val Gly Asn Val Thr Ser Ser Leu Ala Lys Glu Leu
        210   215   ·   220
Gly Leu Ser Ser Asp Val Ala Val Tyr Ala Gly Gly Gly Asp Asn Ala
225   230   235   240
Cys Gly Ala Ile Gly Ala Gly Val Ile His Asp Lys Ser Ala Leu Cys
            245   250   255
Ser Ile Gly Thr Ser Gly Val Val Leu Asn Val Glu Tyr Gln Arg Val
            260   265   270
Thr Ser Tyr Asp Ser Asn Leu His Leu Phe Asn His Ser Val Pro Asp
        275   280   285
Thr Tyr Tyr Ala Met Gly Val Thr Leu Ala Ala Gly Tyr Ser Leu Asn
        290   295   300
Trp Leu Lys Gln Thr Phe Phe Glu Asn Glu Ser Phe Glu Glu Ile Leu
305   310   315   320
Asn Leu Ala Ala Ser Ser Lys Ile Gly Ala Asn Gly Leu Leu Phe Thr
            325   330   335
Pro Tyr Leu Ala Gly Glu Arg Thr Pro His Gly Asp Ala Gln Ile Arg
        340   345   350
</pre>

```
Gly Ser Phe Ile Gly Ile Ser Gly Gln His Thr Lys Ala Asp Phe Ala
        355                 360                 365
Arg Ala Val Ile Glu Gly Ile Thr Tyr Ser Leu Tyr Asp Ser Ile Lys
        370                 375                 380
Ile Met Arg Arg Ala Gly His Glu Met Asn Ser Ile Thr Ser Ile Gly
385                 390                 395                 400
Gly Gly Ala Lys Ser Arg Phe Trp Leu Gln Leu Gln Ala Asp Ile Phe
                405                 410                 415
Asn Val Gln Ile Lys Arg Leu Lys His Glu Glu Gly Pro Ser Met Gly
            420                 425                 430
Ala Ala Ile Leu Ala Ala Tyr Gly Leu Gly Trp Phe Lys Thr Ile Glu
            435                 440·                445
Ser Cys Val Glu Ala Phe Ile Lys Val Asp Glu Val Phe Glu Pro Asn
        450                 455                 460·
Asn Glu Asn His Asp Leu Tyr Glu Gln Tyr Tyr Ser Val Tyr Glu Ala
465                 470                 475                 480
Ile Tyr Lys Gln Thr Lys Gln Leu Thr Ala Asp Leu Leu Thr Ile Thr
                485                 490                 495
Asn
```

<210> 4826
<211> 45
<212> PRT
<213> S.epidermidis

<400> 4826
```
Thr Asn Thr Asn Lys Val Ser Asn His Cys Asn Gln Asp Ile Ile Tyr
1               5             ,        10                  15
His Tyr Phe Asp Leu Leu Asn Leu Tyr His Tyr Ile Thr Ile Ser Leu
            20                  25                  30
Gly Ile Val Ala Asn Lys Ile Lys Lys Thr Leu Leu Phe
        35                  40                  45
```

<210> 4827
<211> 366
<212> PRT
<213> S.epidermidis

<400> 4827
```
Leu Ile Thr Asn Lys Glu Arg Val Leu Met Thr Lys Lys Lys Arg Leu
1               5                   10                  15
Ser Pro Ser Glu Trp Leu Leu Lys Gln Ser Lys Arg His Lys Arg Lys
            20                  25                  30
Asn Thr Leu Tyr Thr Ala Ile Val Leu Leu Val Ala Leu Val Leu Leu
            35                  40                  45
Ile Phe Ala Val Lys Ser Ile Gln Val Glu Pro Val Lys Ser Asp Thr
        50                  55                  60
Arg Asp Lys Asp Ser Ile Arg Ile Thr Tyr Leu Gly Asn Val Thr Leu
65                  70                  75                  80
Asn Lys His Ile Arg Gln Thr Asn Leu Asn Asp Val Phe Lys Gly Ile
                85                  90                  95
Gln Asp Thr Leu Asp His Ser Asp Phe Ser Thr Gly Ser Leu Ile Val
            100                 105                 110
Asn Asp Phe Ser Arg Asn Gln Lys Asp Asn Ile Asn Lys Asn Ile Glu
            115                 120                 125
```

```
Asn Ile Met Phe Leu Arg Lys His Asn Val Lys Ser Val Asn Leu Ile
    130                 135                 140
Asn Glu Ser Met Asp Asn Ile Gln Ala Thr Ala Met Met Arg Lys Ile
145                 150                 155                 160
Asp Ser Gln Ala Gly Tyr Asn Phe Leu Thr Gly Asn Gly Ser' Asn Pro
                165                 170                 175
Ile Asn Ser Lys Thr Val Gln Gln Asp Ile Lys Gly Lys Lys Ile Ala
                180                 185                 190
Asn Val Ser Phe Thr Asp Ile Glu Ser Asn Tyr Thr Asn Ser Leu Lys
                195                 200                 205
Asn Thr Thr Ser Ile Ser Leu Asp Pro Ala Ile Phe Tyr Pro Leu Ile
    210                 215                 220
Lys Lys Leu Lys Glu Asn Asn Asp Tyr Val Val Val Asn Val Asp Trp
225                 230                 235                 240
Gly Ile Pro Asn Glu Arg Asn Val Thr Thr Arg Gln Lys Glu Tyr Ala
                245                 250                 255
His Ala Leu Ala Asn Ala Gly Ala Asp Val Ile Ile Gly His Asn Thr
                260                 265                 270
Val Ile Gln Lys Val Glu Asn Tyr Lys Arg Thr Pro Ile Phe Tyr Ser
                275                 280                 285
Leu Gly Asn Thr Thr Ser Asp Asn Phe Leu Ser Lys Asn Gln Lys Gly
    290                 295                 300
Met Ile Val Gln Gln Asp Trp Lys Gly Ser His Asn Gln Phe His Ile
305                 310                 315                 320
Thr Pro Ile Gln Ser Lys Asp Gly Lys Ile Ser Lys Asp Asn Met Asn
                325                 330                 335
Lys Met Asp His Ile Arg Phe Lys Asn Asn Ile Lys Asp Lys Ser Ile
                340                 345                 350
Asp Leu Lys Ser Asp Gln Asn Gly Gly Tyr Thr Phe Glu Tyr
    355                 360                 365
```

```
<210> 4828
<211> 139
<212> PRT
<213> S.epidermidis

<400> 4828
```

```
Glu Gly Thr Asn Lys Met Lys Lys Thr Ala Val Leu Asn Ser His Ile
1               5                   10                  15
Ser Ser Ala Ile Ser Thr Leu Gly His Tyr Asp Leu Leu Thr Ile Asn
                20                  25                  30
Asp Ala Gly Met Pro Ile Pro Asn Asp Asp Lys Arg Ile Asp Leu Ala
                35                  40                  45
Val Thr Lys Ser Leu Pro Cys Phe Ile Asp Val Leu Glu Thr Val Leu
            50                  55                  60
Thr Glu Met Glu Ile Gln Lys Ile Tyr Leu Ala Glu Glu Ile Lys Thr
65                  70                  75                  80
Ala Asn Ala Gln Gln Leu Lys Ala Ile Lys Lys Leu Ile Asn Asp Asp
                85                  90                  95
Val Glu Ile Lys Phe Ile Ala His Ser Glu Met Lys Glu Met Leu Lys
                100                 105                 110
Ser Pro Leu Asn Lys Gly Asn Ile Arg Thr Gly Glu Ile Thr Pro Phe
            115                 120                 125
Ser Asn Ile Ile Leu Glu Ser Asn Val Thr Phe
    130                 135
```

<210> 4829
<211> 299
<212> PRT
<213> S.epidermidis

<400> 4829
Cys Ile Lys Asn Lys Arg Met Tyr Met Ile Lys Gln Asn Phe Thr Thr
1   5   10   15
Lys Val Tyr Pro Leu Lys Gln Phe Glu Gly Glu Tyr Ser Glu Val Ala
            20   25   30
Tyr Ala Gly Asp Ser Gln Ala Asp Asp Val Ile Val Phe Ile His Gly
        35   40   45
Ala Leu Leu Thr Tyr Lys Ile Met Thr Met Phe Glu Pro Tyr Phe Arg
    50   55   60
Asp Tyr Lys Leu Ile Phe Ile Asn Cys Pro Ser Arg Gly Lys Ser Ser
65   70   75   80
Asp Leu Asp Arg Asp Thr His Thr Leu Asp Asp Tyr Ala Ala Arg Ile
                85   90   95
Tyr Asp Val Leu Thr Gln Ile Val Lys Glu Gln Gln Ile Lys Glu Leu
            100   105   110
Ser Ile Val Gly Tyr Ser Met Gly Gly Met Ile Ala Thr Arg Leu Leu
            115   120   125
Lys Tyr Asn Thr Leu Pro Val Ser His Leu Ile Tyr Leu His Ser Ala
    130   135   140
Ala Lys Ile Thr Pro Asp Ala Ser Met Leu Ala Arg Leu Phe Thr Ser
145   150   155   160
Glu Ser Lys Arg Ala Val Leu Lys Asp Glu Ile Lys Ala Val Lys Asn
            165   170   175
Leu Pro Gln Tyr Ile Leu Asp Lys Thr Ile Tyr Ala Gln Lys Glu Asn
            180   185   190
Ala Leu Asp Leu Val Gln Phe Ile Ala Pro Ile Lys Thr Ile Ile Thr
    195   200   205
Asp Met Ile Tyr Thr Ile Asn Thr Asp Tyr Leu Pro Asp Ile Asp Glu
    210   215   220
Ile Lys Gln Phe Pro Lys Ile Leu Phe Met Ser Gly Lys Glu Asp Gln
225   230   235   240
Ile Ile Pro Tyr Thr Asp Ser Gln Ala Thr Leu Glu Lys Phe Lys Ala
            245   250   255
Leu Gly Gly Lys Thr Lys Glu Val Ile Tyr Pro Gly Ile Gly His Ile
            260   265   270
Asp Phe Pro Ser Val Leu Glu Thr Gln Ser Asp Gly Gln Thr Gly Val
            275   280   285
Val Asp Glu Ile Lys Ala Trp Ile Ser Lys Lys
    290   295

<210> 4830
<211> 70
<212> PRT
<213> S.epidermidis

<400> 4830
Phe Ala Lys Lys Glu Tyr Lys Lys Ser Ser Asn Glu Val Gly Ser Thr
1   5   10   15
Ser Leu Glu Val Ser Gly Val Gly Val Asn Phe Val Ser Lys Phe Ile
            20   25   30
Tyr Ser Asn Leu Ile Leu Ile Lys Val Leu Ser Ile Gly Arg Asn Ile

```
              35                      40                      45
Leu Tyr Leu Phe Ile Phe Ser Ser Ser Phe Leu Tyr Phe Thr Gly Lys
     50           '         55                  60
Val Phe Tyr Leu Asp Ser
65                70
```

<210> 4831
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4831
```
Ile Phe Glu Lys Lys Leu Val Glu Ile Lys Arg Leu Tyr Arg Cys Asn
1               5                   10                  15
Met Thr Arg Arg Trp Val Lys Arg Val Leu Phe Leu Ile Asp Leu Ile
             20                  25                  30
Leu Leu Asp Val Tyr Thr Ile Ile Glu
         35                  40
```

<210> 4832
<211> 289
<212> PRT
<213> S.epidermidis

<400> 4832
```
Glu Gly Glu Lys Met Asn Glu Gln Trp Met Ser Ala Leu Pro Leu Asp
1               5                   10                  15
Asn Val Lys Asp Ile Ser Pro Val Ser Gly Gly Asp Val Asn Glu Ala
             20                  25                  30
Phe Lys Val Thr Thr Val Glu Glu Asp Ile Phe Phe Leu Leu Val Gln
             35                  40                  45
Arg Gln Arg Ser Glu Ala Phe Tyr Ala Ala Glu Ile Ala Gly Leu Asn
     50                  55                  60
Glu Phe Glu Asn Ala Gly Ile Thr Ala Pro Arg Val Ile Ala Ser Gly
65                  70                  75                  80
Glu Ile Asn Gly Asp Ala Tyr Leu Leu Leu Ser Phe Leu Glu Glu Gly
             85                  90                  95
Ser Gln Gly Ser Gln Arg Glu Leu Ala Arg Leu Val Ala Arg Met His
         100                 105                 110
Ser Gln Tyr Gln Gln Asp Asn Lys Phe Gly Phe Arg Leu Pro His Glu
         115                 120                 125
Gly Ala Asp Ile Ser Phe Asp Asn Ser Trp Thr Glu Thr Trp Lys Glu
     130                 135                 140
Ile Phe Ile Asn Arg Arg Met Asp His Leu Gln Asp Glu Leu Leu Arg
145                 150                 155                 160
Val Gly Leu Trp Lys Gln Glu Asp Lys Lys Met Tyr Glu Arg Val Arg
             165                 170                 175
Lys Val Ile Val Asp Glu Leu Ser Asn His Thr Ser Lys Pro Ser Leu
             180                 185                 190
Leu His Gly Asp Leu Trp Gly Gly Asn Tyr Met Phe Leu Thr Asn Gly
         195                 200                 205
Gln Pro Ala Leu Phe Asp Pro Ala Pro Leu Tyr Gly Asp Arg Glu Phe
     210                 215                 220
Asp Ile Gly Ile Thr Thr Val Phe Gly Gly Phe Thr Gln Glu Phe Tyr
225                 230                 235                 240
Asp Glu Tyr Asn Gln Gln Leu Pro Leu Ala Lys Gly Ser Gln Lys Arg
```

```
                245                    250                    255
Ile Glu Phe Tyr Arg Leu Tyr Leu Leu Met Ile His Leu Leu Lys Phe
            260                    265                    270
Gly Gly Met Tyr Ala Asp Ser Val Gln Arg Ser Met Lys Ile Ile Leu
            275                    280                    285
Glu
```

```
<210> 4833
<211> 602
<212> PRT
<213> S.epidermidis


<400> 4833
Met Asn Glu Asn Asn Tyr Arg Arg Leu Asn Lys Thr Tyr Lys Pro His
1                   5                   10                  15
Tyr Leu Pro Gly Leu Asp Gly Leu Arg Ala Ile Ala Val Ile Gly Ile
            20                  25                  30
Ile Ile Tyr His Leu Asn Thr Lys Trp Leu Ser Gly Gly Phe Leu Gly
            35                  40                  45
Val Asp Thr Phe Phe Val Ile Ser Gly Tyr Leu Ile Thr Ser Leu Leu
        50                  55                  60
Leu Ser Glu Tyr Tyr Arg Asn Asn Ser Ile Asn Leu Val Asn Phe Trp
65                  70                  75                  80
Leu Arg Arg Phe Lys Arg Leu Ile Pro Ala Met Met Phe Val Val Thr
                85                  90                  95
Val Val Leu Ile Tyr Thr Leu Leu Phe Lys Pro Glu Leu Ile Ile Ser
            100                 105                 110
Ile Lys His Asp Ala Ile Ala Ala Leu Phe Tyr Val Ser Asn Trp Trp
            115                 120                 125
Tyr Ile Ile Gln Asp Val Asp Tyr Phe Asn Gln Phe Ala Val Ala Pro
        130                 135                 140
Leu Lys His Leu Trp Ser Leu Ala Ile Glu Glu Gln Phe Tyr Leu Phe
145                 150                 155                 160
Phe Pro Phe Ile Leu Leu Gly Leu Leu Lys Phe Phe Lys Lys Arg Thr
                165                 170                 175
Thr Met Ile Ile Leu Leu Ile Ile Ser Leu Leu Ser Leu Thr Ala Met
            180                 185                 190
Ile Thr Ile His Met Tyr Thr Gly Asn Asn Ser Arg Val Tyr Phe Gly
            195                 200                 205
Thr Asp Thr Arg Leu Gln Thr Leu Leu Leu Gly Cys Leu Leu Ala Phe
        210                 215                 220
Ile Trp Pro Pro Phe Ser Phe Arg Lys Asp Ile Ser Lys Gly Ala Lys
225                 230                 235                 240
Ala Ser Ile Ser Ala Ile Gly Ile Val Gly Met Ala Val Leu Ile Tyr
                245                 250                 255
Leu Phe Val Val Val Ser Asp Gln Asp Lys Trp Ile Tyr Ser Gly Gly
            260                 265                 270
Phe Tyr Ala Ile Ser Phe Leu Thr Leu Phe Val Ile Ala Ser Val Val
            275                 280                 285
His Pro Ser Ser Val Leu Lys Lys Ile Leu Ser Phe Lys Leu Phe Ile
        290                 295                 300
Tyr Ile Gly Lys Arg Ser Tyr Ser Leu Tyr Leu Trp His Tyr Pro Ile
305                 310                 315                 320
Ile Ile Phe Met Asn Ser Tyr Phe Val Gln Gly Gln Ile Pro Trp Phe
                325                 330                 335
```

Val Tyr Ile Cys Glu Val Ile Leu Met Phe Val Met Ala Glu Val Ser
                340   345   350
Tyr Lys Phe Ile Glu Thr Pro Ile Arg Lys Asn Gly Phe Lys Ala Phe
                355   360   365
Thr Val Ile Pro Lys Asn Leu Thr Arg Phe Ser Arg Thr Ile Ile Val
                370   375   380
Leu Ile Leu Leu Val Pro Ser Ala Phe Ile Val Phe Gly Ala Tyr Asp
385   390   395   400
Ser Leu Gly Lys Glu His Asp Lys Gln Gln Ala Ala Lys Gln Lys Ser
                405   410   415
Phe Lys Thr Asn Gln Lys Ala Lys Pro Lys Lys Pro Asp Glu Asn Asn
                420   425   430
Gln Asp Lys Ser Ser Gln Gln His Phe Asn Pro Lys Glu Ala Ser Pro
                435   440   445
Leu Leu Leu Gly Asp Ser Val Met Val Asp Ile Gly Gln Val Phe Ser
                450   455   460
Glu Lys Val Pro Asn Ala Asn Ile Asp Gly Lys Val Gly Arg Gln Leu
465   470   475   480
Ile Glu Gly Lys Asp Leu Ile Asn Gln Lys Tyr Gln Asp Tyr Thr Lys
                485   490   495
Lys Gly Gln Ser Val Val Ile Glu Leu Gly Thr Asn Gly Glu Phe Thr
                500   505   510
Lys Asp Gln Met Asn Glu Leu Ile Asp Ser Leu Gly Glu Ala Asp Ile
                515   520   525
Tyr Leu Ile Lys Val Arg Val Pro Arg Asp Tyr Glu Ser Thr Asn Asn
                530   535   540
Lys Ile Met Glu Gln Val Ala Lys Lys His Lys Asn Val His Ile Val
545   550   555   560
Asp Trp Tyr Lys Thr Ser Glu Gly His Ser Glu Tyr Phe Ala Tyr Asp
                565   570   575
Gly Ile His Leu Glu Tyr Ser Gly Val Lys Ala Leu Ser Asn Glu Ile
                580   585   590
Ile Lys Lys Met Lys Glu Val Asn Glu Lys
                595   600

<210> 4834
<211> 230
<212> PRT
<213> S.epidermidis

<400> 4834
Lys Arg Trp Lys Ile Met Leu Asn Gln Phe Val Trp Val Ile Tyr Pro
1   5   10   15
Tyr Leu Cys Leu Ala Ile Phe Val Ile Gly His Ile Ala Arg Tyr Lys
                20   25   30
Tyr Asp Gln Phe Ser Trp Thr Ala Lys Ser Ser Glu Met Ile Glu Lys
                35   40   45
Lys Arg Leu Lys Trp Gly Ser Leu Leu Phe His Leu Gly Ile Ile Pro
                50   55   60
Val Phe Phe Gly His Val Val Gly Leu Leu Ile Pro Ala Asn Trp Leu
65   70   75   80
Glu Ala Ile Gly Val Asn Asn His Ile Tyr His Ile Gly Ala Val Tyr
                85   90   95
Ile Gly Ser Val Phe Gly Ile Ile Thr Leu Ile Gly Met Leu Leu Leu
                100   105   110
Thr Leu Arg Arg Leu Ser Ile Lys Asn Val Arg Arg Leu Ser Ser Phe

```
               115                      120                      125
Ser Asp Ile Phe Val Asn Ile Val Leu Leu Ile Ile Leu Ile Met Gly
    130                      135                      140
Cys Tyr Ser Thr Leu Val Thr Asn Ala Ile Gln Pro Glu Phe Asp Tyr
145                      150                      155                      160
Arg Gln Thr Ile Ala Ile Trp Phe Arg His Leu Phe Met Phe Ser Pro
                   165                      170                      175
Asn Ala Asp Leu Met Leu Asn Val Pro Trp Ser Phe Lys Leu His Ile
                   180                      185                      190
Leu Leu Gly Phe Thr Val Phe Ala Cys Trp Pro Phe Thr Arg Leu Val
                   195                      200                      205
His Val Trp Ser Val Pro Leu Ser Tyr Met Asn Arg Arg Tyr Ile Val
    210                      215                      220
Tyr Arg Lys Asn Lys Ile
225                      230
```

```
<210> 4835
<211> 77
<212> PRT
<213> S.epidermidis
```

```
<400> 4835
Val Leu Arg Phe Phe Leu Gly Gly Phe Gly Ala His Arg Phe Tyr His
1                   5                       10                       15
Gly Lys Val Gly Ser Gly Val Gly Leu Leu Val Leu Thr Leu Leu Thr
              20                      25                      30
Val Trp Phe Thr Phe Gly Ile Pro Thr Leu Ile Trp Ala Ile Ile Asp
              35                      40                      45
Ala Phe Leu Ile Pro Asn Trp Val Lys Glu Asp Glu Glu Arg Ile Arg
         50                      55                      60
Gln Gln Ala Leu Ser Glu Val Lys Leu Met Lys Asn Lys
65                      70                      75
```

```
<210> 4836
<211> 71
<212> PRT
<213> S.epidermidis
```

```
<400> 4836
Leu Glu Tyr Leu Ile His Glu Tyr Val Asp Leu Ile Glu Leu Leu Leu
1                   5                       10                       15
Ile Val Ile Leu Leu Val Ser Leu Thr Ser Phe His Pro Leu Tyr Met
              20                      25                      30
Leu Lys Leu Asp Val Ile Leu Leu Tyr Phe Asn Ile Glu Lys Ser Leu
         35                      40                      45
Gln Arg Ser Lys Arg Arg Arg Asp Thr Lys Leu Tyr Pro Ile Asn Leu
         50                      55                      60
Lys Ile Ser Phe Ser Tyr Lys
65                      70
```

```
<210> 4837
<211> 50
<212> PRT
<213> S.epidermidis
```

```
<400> 4837
```

```
Leu Ile Phe Leu His His Thr Pro Lys Ile Asn Ile Tyr Tyr Ile His
1               5                   10                  15
Phe Ala Phe Tyr Ser Ile Gln Leu Cys Tyr Ser Val His Arg Leu Thr
            20                  25                  30
Ser Ile Thr Arg Gly Ala Ile Gln Phe Ala Glu Arg Lys Phe Thr Phe
        35                  40                  45
Asn Pro
    50
```

<210> 4838
<211> 65
<212> PRT
<213> S.epidermidis

<400> 4838
```
Leu Lys Phe Asp Ser Leu Gln Ser Gln Tyr Asp Leu Ser Phe Ile Tyr
1               5                   10                  15
Ile Thr His Tyr Leu Ile Ile Leu Tyr Ile Ser Glu Tyr Ile Lys Glu
            20                  25                  30
Ile Ser Asn Val Gln Asp Asn Ser Thr Leu Thr Leu Lys Lys Leu Lys
        35                  40                  45
Lys Ala Thr Glu Phe Glu Leu Arg Val Phe Pro His Phe Asn Asn Lys
    50                  55                  60
Ser
65
```

<210> 4839
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4839
```
Met Ala Leu Asp Tyr Thr His Leu Ser Ala Ile Leu Phe Asn His Thr
1               5                   10                  15
Ile Leu Lys Arg Ala Pro Tyr Leu Tyr Asn Ser Thr Tyr Val Ala Asn
            20                  25                  30
Phe Thr Val Tyr Phe Phe Gly Lys Ile Ile
        35                  40
```

<210> 4840
<211> 451
<212> PRT
<213> S.epidermidis

<400> 4840
```
Leu Lys Ile Asp Gln Thr Leu Thr Ser Arg Ile Arg Gln Leu Glu Ala
1               5                   10                  15
Tyr Ile Met Lys Gln Phe Leu Asn Ile Thr Gln Arg Lys Phe Ile Glu
            20                  25                  30
Trp Leu Ile Ile Leu Ser Ile Phe Ile Val Ser Ile Pro Asn Lys Trp
        35                  40                  45
Thr Leu Met Ile Ser Ile Ala Leu Ser Leu Leu Leu Leu Lys Arg Gly
    50                  55                  60
Ala Leu Gly Val Val Gln Leu Ile Ile Leu Tyr Met Leu Arg Ser Gln
65                  70                  75                  80
Ile Tyr Thr Pro Tyr Asp Thr Gln Glu Met Ala His Tyr Ile Val Ser
```

```
                     85                      90                      95
Met Lys Tyr Ile Leu Ile Tyr Val Ile Gly Val Phe Phe Leu Phe Lys
                100                     105                     110
Tyr Val Lys His Trp Ile Arg Asn Glu Met Ile Leu Arg Phe Ile Lys
                115                     120                     125
Ser Thr Met Ile Leu Met Leu Leu Tyr Ile Ile Met Ser Leu Val Val
                130                     135                     140
Ser Asn Asp Pro Ile Glu Ser Ile Leu Lys Leu Leu Asn Phe Phe Ile
145                     150                     155                     160
Pro Leu Ile Leu Ile Val Met Tyr Val Ser Leu Ile Lys Lys Ile Lys
                165                     170                     175
Asn Leu Ile Asn Trp Ile Asn Gln Phe Ile Thr Leu Val Ile Ala Phe
                180                     185                     190
Thr Phe Leu Phe Ile Val Ile Ala Pro Lys Ser Tyr Leu Ile Asp Glu
                195                     200                     205
Glu Ser Leu Arg Ser Val Phe Lys Asp Ala His Ser Phe Ala Val Ile
                210                     215                     220
Leu Ala Met Gly Leu Val Leu Tyr Met Val Thr Ile Ile Lys Gln Gln
225                     230                     235                     240
Asp Tyr Asp Val Phe Asn Leu Leu Leu Leu Asn Ile Gly Met Ile Glu
                245                     250                     255
Leu Tyr Leu Ser Asn Ser Arg His Ile Phe Ile Ser Val Ile Leu Cys
                260                     265                     270
Leu Met Leu Leu Leu Pro Leu Ser His Ile Lys Lys Arg Ile Lys His
                275                     280                     285
Pro Ile Ile Gly Ala Met Ile Leu Met Ala Ile Ala Ile Ile Asn Gln
                290                     295                     300
Pro Tyr Ile Tyr His Leu Phe Ile Lys Leu Ile Leu Lys Gly Lys Asn
305                     310                     315                     320
Ser Gln Glu Val Phe Met Pro Ser Asp Met Asn Ile Lys Ala Ile Asp
                325                     330                     335
Tyr Ala Leu Thr Glu His Pro Phe Leu Gly Ser Gly Phe Gly Ile Pro
                340                     345                     350
Met Ile Lys Ala Ser Ser Glu Ile Gln Tyr Phe Asn Val Ala Thr Ser
                355                     360                     365
Asn Ile Ile Phe Gly Met Ile Ile Phe Thr Gly Ile Ile Gly Leu Thr
                370                     375                     380
Leu Cys Thr Ile Tyr Met Leu His Met Val Leu Leu Val Thr Phe Pro
385                     390                     395                     400
Met Ser Ile Thr Ile Leu Leu Phe Leu Ile Thr Ile Phe Val Asn Met
                405                     410                     415
Asp Tyr Ile Ile Leu Phe Asp Ser Val Gly Leu Gly Ile Leu Cys Tyr
                420                     425                     430
Ile Phe Trp Gly Ile Tyr Leu Lys Glu Gly Met Tyr Gln Tyr Asn Asn
                435                     440                     445
Gly Gln Trp
        450
```

<210> 4841
<211> 234
<212> PRT
<213> S.epidermidis

<400> 4841

```
Ala Met Ile Glu His Leu Gly Ile Asn Thr Pro Tyr Phe Gly Ile Leu
1               5                       10                      15
```

Val Ser Leu Ile Pro Phe Val Ile Ala Thr Tyr Phe Tyr Lys Lys Thr
          20   25   30
Asn Gly Phe Phe Leu Leu Ala Pro Leu Phe Val Ser Met Val Ala Gly
          35   40   45
Ile Ala Phe Leu Lys Leu Thr Gly Ile Ser Tyr Glu Asn Tyr Lys Ile
     50   55   60
Gly Gly Asp Ile Ile Asn Phe Phe Leu Glu Pro Ala Thr Ile Cys Phe
65   70   75   80
Ala Ile Pro Leu Tyr Arg Lys Arg Glu Val Leu Lys Lys Tyr Trp Leu
               85   90   95
Gln Ile Phe Gly Gly Ile Ala Val Gly Thr Ile Ile Ala Leu Leu Leu
          100   105   110
Ile Tyr Leu Val Ala Ile Thr Phe Gln Phe Gly Asn Gln Ile Ile Ala
          115   120   125
Ser Met Leu Pro Gln Ala Ala Thr Thr Ala Ile Ala Leu Pro Val Ser
     130   135   140
Asp Gly Ile Gly Gly Val Lys Glu Leu Thr Ser Leu Ala Val Ile Leu
145   150   155   160
Asn Ala Val Val Ile Ser Ala Leu Gly Ala Lys Ile Val Lys Leu Phe
                    165   170   175
Lys Ile Ser Asn Pro Ile Ala Arg Gly Leu Ala Leu Gly Thr Ser Gly
          180   185   190
His Thr Leu Gly Val Ala Ala Ala Lys Glu Leu Gly Glu Thr Glu Glu
          195   200   205
Ser Met Gly Ser Ile Ala Val Val Ile Val Gly Val Ile Val Val Ala
     210   215   220
Val Val Pro Ile Leu Ala Pro Ile Leu Leu
225   230

<210> 4842
<211> 596
<212> PRT
<213> S.epidermidis

<400> 4842
Met Arg Ile Asp Val Met Leu Asn Leu Phe Ile Leu Leu Leu Glu Arg
1   5   10   15
Val Gly Leu Ile Ile Leu Leu Ala Tyr Ile Leu Met Asn Ile Asn His
          20   25   30
Phe Lys Thr Met Met Ser Glu Arg Asp Lys Trp Arg Ser Lys Phe Gln
          35   40   45
Leu Ile Ile Ile Phe Gly Ile Phe Ser Met Ile Ser Asn Phe Thr Gly
     50   55   60
Ile Glu Ile Glu Asn Gly His Ile Val Ser Gly Asp Ile Tyr Tyr His
65   70   75   80
Leu Ser Lys Asp Ala Ser Met Ala Asn Thr Arg Val Leu Thr Ile Gly
               85   90   95
Val Ser Gly Leu Ile Gly Gly Pro Trp Val Ala Ile Ile Val Gly Ile
          100   105   110
Ile Ser Gly Leu Cys Arg Leu Tyr Ile Gly Gly Ala Asp Ala Tyr Thr
          115   120   125
Tyr Leu Ile Ser Ser Ile Val Ile Ala Ile Ile Ser Gly Tyr Phe Gly
     130   135   140
His Gln Thr Ile Lys Gln Asn Thr Tyr Pro Ser Ile Lys Lys Gly Ala
145   150   155   160
Ile Ile Gly Ala Ile Thr Glu Ile Ile Gln Met Gly Cys Ile Leu Leu

```
                    165                      170                      175
Phe Thr Asn Asn Leu His His Ala Ile Thr Leu Val Ser Phe Ile Ala
            180                      185                      190
Leu Pro Met Ile Ile Ile Asn Ser Leu Gly Thr Ala Ile Phe Leu Thr
            195                      200                      205
Ile Ile Leu Ser Thr Ile Lys Gln Glu Gln Met Arg Ala Val Gln
        210                      215                      220
Thr His Asp Val Leu Gln Leu Ala Asn Glu Thr Leu Pro Tyr Phe Arg
225                      230                      235                      240
Ser Gly Leu Asn Glu Lys Ser Ala Gln Gln Ala Ala Glu Ile Ile Leu
                    245                      250                      255
Lys Leu Met Gln Val Ser Ala Val Ala Ile Thr Asn Lys Lys Asp Ile
                    260                      265                      270
Leu Thr His Ile Gly Ala Gly Ser Asp His His Val Ala Arg Lys Glu
            275                      280                      285
Ile Ile Thr Asp Leu Ser Lys Glu Val Ile Gln Ser Gly Lys Leu Lys
        290                      295                      300
Val Ala His Thr Arg Glu Gly Ile Gly Cys His His Pro Asn Cys Pro
305                      310                      315                      320
Leu Glu Gly Ala Ile Val Val Pro Leu Tyr Ile His Asn Glu Val Ala
                    325                      330                      335
Gly Thr Leu Lys Phe Tyr Phe Thr Asp Asn Asn Ile Ile Ser Thr Ser
            340                      345                      350
Asp Gln Gln Leu Ala Lys Gly Leu Ala Asn Ile Phe Ser Ser Gln Leu
            355                      360                      365
Glu Leu Gly Gln Ala Glu Met Gln Gly Gln Leu Leu Lys Asp Ala Glu
        370                      375                      380
Ile Lys Ser Leu Gln Ala Gln Val Asn Pro His Phe Phe Phe Asn Ala
385                      390                      395                      400
Ile Asn Thr Ile Ser Ala Leu Val Arg Ile Asp Ser Glu Lys Ala Arg
                    405                      410                      415
Arg Leu Leu Ile Gln Leu Ser Gln Phe Phe Arg Ser Asn Leu Asn Gly
            420                      425                      430
Ala Arg Asn Asn Thr Ile Thr Leu Gln Lys Glu Leu Gln Gln Val Ala
            435                      440                      445
Ala Tyr Leu Ser Leu Glu Gln Ala Arg Tyr Pro Asn Arg Phe Asn Ile
        450                      455                      460
His Tyr Arg Ile Asp Asp Gln Cys Gln Asp Ala Leu Ile Pro Pro Phe
465                      470                      475                      480
Ile Ile Gln Ile Leu Val Glu Asn Ser Ile Lys His Ala Phe Lys Asn
            485                      490                      495
Arg Lys Lys Asn Asn His Ile Asp Val Asp Val Ser Met Lys Gln Asp
        500                      505                      510
Tyr Leu Ser Ile Ser Val Gln Asp Asn Gly Gln Gly Ile Pro Ala Asp
        515                      520                      525
Gln Leu Asp Thr Ile Gly Tyr Thr Thr Val Thr Ser Thr Thr Gly Thr
    530                      535                      540
Gly Asn Ala Leu Val Asn Leu Asn Lys Arg Leu Thr Gly Leu Phe Gly
545                      550                      555                      560
Thr Thr Ser Ala Leu Asn Ile Gln Ser Ser Gln Ser Gly Thr Thr Val
            565                      570                      575
Ser Cys Leu Ile Pro Tyr Lys Ser Ser Lys Glu Glu His Phe Asn Glu
            580                      585                      590
Ser Val Asn Arg
        595
```

<210> 4843
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4843
Asn Lys His Asp Cys Arg Asn Glu Ile Ile Val Phe Thr Phe Phe His
1   5   10   15
Arg Phe Pro Tyr Ser Phe Leu Asn Phe Ile Gln Tyr Asp Tyr Tyr Asp
            20   25   30
Ser Leu Phe Gln Ile Pro Lys Glu Ile Phe Lys Leu Thr Lys Asn
            35   40   45

<210> 4844
<211> 180
<212> PRT
<213> S.epidermidis

<400> 4844
Trp Phe Asn Glu Lys Ile Leu Thr Val Ser Ile Tyr Ile Val Asn Ile
1   5   10   15
Cys Glu Ser Phe Tyr Thr Ile Ile Asn Arg Ala Arg Leu Lys Arg Gly
            20   25   30
Gly Tyr Val Lys Gln Glu Gln Met Arg Leu Ala Asn Gln Leu Cys Phe
            35   40   45
Ser Ala Tyr Asn Val Ser Arg Leu Phe Ala Gln Phe Tyr Glu Lys Lys
        50   55   60
Leu Lys Gln Phe Gly Ile Thr Tyr Ser Gln Tyr Leu Val Leu Leu Thr
65   70   75   80
Leu Trp Glu Glu Asn Pro Gln Thr Leu Asn Ser Ile Gly Arg His Leu
                85   90   95
Asp Leu Ser Ser Asn Thr Leu Thr Pro Leu Leu Lys Arg Leu Glu Gln
                100   105   110
Ser Gly Trp Val Lys Arg Glu Arg Gln Gln Ser Asp Lys Arg Gln Leu
            115   120   125
Ile Ile Thr Leu Thr Asp Asn Gly Gln Gln Gln Gln Glu Ala Val Phe
        130   135   140
Glu Ala Ile Ser Ser Cys Leu Pro Gln Glu Phe Asp Thr Thr Glu Tyr
145   150   155   160
Asp Glu Met Lys Tyr Val Phe Glu Glu Leu Glu Gln Thr Leu Lys His
                165   170   175
Leu Ile Glu Lys
                180

<210> 4845
<211> 458
<212> PRT
<213> S.epidermidis

<400> 4845
Lys Glu Asp Leu Ile Met Lys Tyr Ile Val Val Gly Thr Ser His Ser
1   5   10   15
Gly Tyr Glu Val Ile Gln Thr Leu Leu Lys Glu Asp Glu Asn Ala Asp
            20   25   30
Ile Gln Val Phe Glu Ser Ala Asp Gln Pro Ser Phe Leu Ser Cys Gly
            35   40   45

Ile Gln Ser Tyr Leu Glu Asp Ile Ser Ser Ser Leu Asp Asp Leu His
    50   55   60
Tyr Ala Ser Val Asp Ser Tyr Lys Ala Gln Gly Val Asn Ile His Thr
65   70   75   80
Asn Ser Thr Val Thr Asp Leu Asp Thr Asp Asn Lys Thr Val Val Val
                85   90   95
Glu His Gln Gly Gln Thr Ala Thr Tyr Ser Tyr Asp Lys Leu Phe Leu
                100   105   110
Ser Pro Gly Gly Lys Pro Val Thr Pro Pro Val Asp Gly Ile Glu Lys
                115   120   125
Tyr Lys His Val Leu Phe Met Arg Gly Arg Asp Trp Ala Asn Gln Ile
    130   135   140
Lys Glu Arg Met Lys Asp Ala Lys Lys Ala Val Val Val Gly Gly Gly
145   150   155   160
Tyr Ile Gly Ile Glu Ala Ala Glu Ala Phe Ala Lys Ala Gly Ile Asp
                165   170   175
Thr Thr Ile Val Asp Val Ala Asp Arg Ile Leu Asn Thr Tyr Leu Asp
                180   185   190
Lys Glu Phe Thr Asp Ile Leu Glu Thr Asn Ala Gln Gln His Gly Leu
                195   200   205
His Phe Lys Gly Gly Glu Thr Val Lys Ser Ile Ser Gly Asn Gln Asn
    210   215   220
Gly Glu Val Thr Thr Val Val Thr Asp Lys Asn Glu Tyr Asp Ala Asp
225   230   235   240
Thr Val Leu Phe Ala Val Gly Val Glu Pro Ala Thr Glu Trp Leu Lys
                245   250   255
Asp Lys Ile Asp Leu Gly Lys Lys Gly Ile Ile Asn Ile Asn His Gln
                260   265   270
Gln Gln Thr Ser Ala Lys Asp Val Tyr Ala Gly Gly Asp Ala Thr Leu
                275   280   285
Val Pro Phe Ala Pro Val Ser Glu Asp Arg Tyr Ile Ala Leu Ala Thr
    290   295   300
Asn Ser Arg Arg Gln Gly Val Val Ala Ala Lys Asn Met Leu Gly Lys
305   310   315   320
Glu Met Thr Met Pro Arg Val Ser Gly Thr Ser Gly Leu Gln Leu Phe
                325   330   335
Asp Tyr Lys Phe Gly Gln Thr Gly Ile His Gly Thr Glu Ile Asp Asn
    340   345   350
Tyr Asp Gly Asn Leu Gly Gln Thr Tyr Val Glu Glu Leu Ile Arg Pro
    355   360   365
Gln Phe Met Gln Asp Asp Thr Lys Ile His Met Lys Ile Ile Tyr Asp
    370   375   380
Lys Asp Thr His Arg Ile Leu Gly Gly Gln Val Met Ser Lys Glu Asp
385   390   395   400
Ile Thr Ala Ser Ile Asn Thr Ile Ser Val Val Ile Ser Ala Gly Phe
                405   410   415
Thr Leu Glu Gln Leu Ala Val Gln Asp Phe Phe Phe Gln Pro Asp Tyr
                420   425   430
Asp Arg Pro Trp His Tyr Leu Asn Val Leu Ala Gln Gln Ala Leu Gly
    435   440   445
Asp Thr Phe Gly Ser Asp Lys Met Leu Phe
    450   455

<210> 4846
<211> 44
<212> PRT

<213> S.epidermidis

<400> 4846
Leu Gly Asn Asp Val Pro Ile Thr Arg Ile Ile Ser Asn Asn Lys Tyr
1   5   10   15
Thr Thr Ile Ala Thr Ile Thr Ile Leu Ile Ile Leu Phe Phe Ala Ile
            20   25   30
Ile His Cys Cys Phe Ile Thr Ser Phe Ile Thr Asp
        35   40

<210> 4847
<211> 91
<212> PRT
<213> S.epidermidis

<400> 4847
Thr Lys Asn Glu Gln Val Glu Gln Phe Leu Ala Lys Glu Ser Gln Trp
1   5   10   15
Gln Asp Cys Tyr Lys Phe Leu Arg Asn Leu Ile Phe Asn Glu Thr Glu
            20   25   30
Leu Glu Glu Asn Tyr Lys Trp Met His Pro Cys Tyr Thr Ile Asn Asn
        35   40   45
Lys Asn Ala Val Leu Ile His Gly Phe Lys Gly Tyr Val Ala Leu Leu
        50   55   60
Phe Gln Lys Gly Ala Ile Leu Glu Glu Lys Tyr His Thr Leu Ile Gln
65   70   75   80
Gln Thr Glu Arg Leu Gln Ala Glu Ala Val Pro
                85   90

<210> 4848
<211> 543
<212> PRT
<213> S.epidermidis

<400> 4848
Cys Leu Asp Glu Ser Glu Leu Lys Gly Ser Thr Leu Met Asn Lys Ser
1   5   10   15
Asn Leu Leu Ala Pro Glu Asn Tyr Asn Ile Val Thr Glu Ile Glu Lys
            20   25   30
Tyr Ala Ser Glu Asp His Lys Lys Ala Ile Ile Tyr Lys Asp Asn Glu
            35   40   45
His Glu Asn Ile Ser Val Ser Tyr Lys Glu Leu Ile Ser Asn Ala Asn
        50   55   60
Lys Val Gly Asn Val Phe Leu Asn His Gly Leu Lys Lys Gly Asp Lys
65   70   75   80
Val Leu Ile Met Met Pro Arg Ala Ile Val Thr Tyr Glu Leu Tyr Ile
                85   90   95
Ala Ala Leu Lys Leu Gly Ile Ala Ile Val Pro Ser Ser Glu Met Leu
            100   105   110
Arg Thr Lys Asp Leu Gln Tyr Arg Ile Thr His Gly Glu Ile Asp Ala
        115   120   125   `
Val Ile Ser Phe Asp Ser Leu Thr Lys Glu Phe Glu Asn Val Lys Glu
        130   135   140
Tyr Asp Gln Leu Lys Lys Phe Ile Val Ala Gly His Lys Glu Asp Trp
145   150   155   160
Val Ser Ile Glu Asp Glu Lys Glu Lys Val Ser Asp Asp Leu Lys Gly

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                    165                 170                 175
Ala Asp Thr Thr Arg Asp Asp Leu Ala Ile Leu Ser Tyr Thr Ser Gly
        180                 185                 190
Thr Thr Gly Asn Pro Lys Ala Val Thr His Ser His Gly Trp Gly Tyr
        195                 200                 205
Ala His Leu Gln Met Ala Pro Lys His Trp Leu Cys Ile Gln Glu Asn
        210                 215                 220
Asp Leu Val Trp Ala Thr Ala Ala Pro Gly Trp Gln Lys Trp Val Trp
225                 230                 235                 240
Ser Pro Phe Leu Ser Val Leu Gly Met Gly Ala Thr Ala Phe Val Tyr
                245                 250                 255
Asn Gly Arg Phe His Pro Glu Thr Tyr Leu Glu Leu Leu Gln Asn Tyr
        260                 265                 270
Gln Ile Asn Val Leu Cys Cys Thr Pro Thr Glu Tyr Arg Met Met Ala
        275                 280                 285
Lys Leu Ser His Leu Glu Gln Tyr Asn Leu Glu Tyr Leu His Ser Ala
        290                 295                 300
Val Ser Ala Gly Glu Pro Leu Asn Arg Glu Val Val Glu Gln Phe Lys
305                 310                 315                 320
Arg His Phe Asn Ile Thr Val Arg Asp Gly Tyr Gly Gln Thr Glu Ser
                325                 330                 335
Thr Leu Leu Ile Gly Phe Leu Lys Asp Thr Glu Pro Arg Met Gly Ser
                340                 345                 350
Met Gly Lys Gly Ile Pro Gly Ser Phe Val Thr Val Ile Asp Asp Asp
        355                 360                 365
Gly Lys Glu Val Gly Pro Asn Val Lys Gly Asn Ile Ala Val Pro Leu
        370                 375                 380
Asp Leu Pro Ala Leu Phe Lys Gly Tyr Phe Lys Asp Glu Ala Arg Thr
385                 390                 395                 400
Lys Ala Ala Ser Thr Gly Asp Tyr Tyr Val Thr Gly Asp Gln Ala His
                405                 410                 415
Ile Asp Asn Asp Gly Tyr Phe Trp Phe Glu Gly Arg Arg Asp Asp Ile
                420                 425                 430
Ile Ile Ser Ser Gly Tyr Thr Ile Gly Pro Phe Glu Val Glu Asp Ala
        435                 440                 445
Leu Thr Asn His Ala Ala Val Lys Glu Cys Ala Val Val Ala Ser Pro
        450                 455                 460
His Asp Ile Arg Gly Asn Ile Val Lys Ala Phe Ile Ile Leu Gln Asp
465                 470                 475                 480
Asp Tyr Glu Ala Ser Asp Glu Leu Ile Gln Glu Leu Gln Val Phe Cys
                485                 490                 495
Lys Asn Glu Val Ala Pro Tyr Lys Tyr Pro Arg Ala Ile Glu Phe Val
        500                 505                 510
Glu His Leu Pro Lys Thr Asn Ser Gly Lys Ile Arg Arg Val Glu Leu
        515                 520                 525
Arg Asp Ala Glu Ile Lys Lys Tyr Lys Gln Gln Asp Ser Ser His ·
        530                 535                 540
```

```
<210> 4849
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4849
Phe Cys Cys Glu Ile Leu Ile Asn Ser Leu Phe Ile Thr Ser Leu Tyr
1               5                   10                  15
```

```
Val Leu His Leu Asn Ser His Lys Val Leu Ser Ser Asn Thr Tyr Ser
            20                  25                  30
Asn Tyr Ile Arg Lys Ser Asn Met Leu Leu Phe Asn Gln Thr Lys Gly
            35                  40                  45
```

<210> 4850
<211> 101
<212> PRT
<213> S.epidermidis

<400> 4850
```
Ile Pro Ser Glu Val Lys Leu Lys Lys Phe Leu Lys Ile Ile Gln Lys
1               5                   10                  15
Thr Ile His Tyr Ile Asn His His Leu Glu Ser Ala Ile Glu Ile Tyr
            20                  25                  30
Ser Thr Tyr Thr Gln Thr Asp Ile Ser Asn Gln Leu Asn Lys Asp Thr
            35                  40                  45
Ile Glu Ala Thr Ala Lys Cys Phe Thr Asn Asp Leu Ser Met Ser Ser
        50                  55                  60
Asp Tyr Tyr Asn Asp Leu Gln Leu Trp Leu Lys Glu Val Asn Asp Ile
65                  70                  75                  80
Lys Asp Thr Ile Asn Pro Thr Leu Tyr Phe Thr Asn Gln Leu Leu Phe
                85                  90                  95
Ser Arg Tyr Thr Lys
                100
```

<210> 4851
<211> 270
<212> PRT
<213> S.epidermidis

<400> 4851
```
Lys Glu His Glu Thr Met Thr Asn Phe His Ser Ile Asp Ala Thr Gln
1               5                   10                  15
Val Thr Asn Val Thr Leu Asn Val Lys Asp Leu Asn Lys Leu Thr Asp
            20                  25                  30
Phe Tyr Ser Asn Val Leu Gly Phe Ser Ile Glu Lys Gln Thr Asn Gln
            35                  40                  45
Gln Thr Val Phe Asn Ile Gly Asn Leu Gly Tyr Thr Leu Thr Leu Asn
            50                  55                  60
Glu Leu Asn Asn Gly Arg Gln Pro Glu Phe Arg Glu Ala Gly Leu Phe
65                  70                  75                  80
His Val Ala Tyr Leu Leu Pro Thr Arg Ser Asp Leu Ala Asp Phe Leu
                85                  90                  95
Tyr His Ala Asn Asn Leu Asn Ile Ala Met Gly Gly Gly Asp His Leu
                100                 105                 110
Val Ser Glu Ala Leu Tyr Phe Thr Asp Pro Glu Gly Asn Gly Ile Glu
            115                 120                 125
Val Tyr His Asp Arg Pro Ser Glu Asp Trp Val Trp Arg Asp Gly Phe
            130                 135                 140
Val Lys Met Asp Thr Leu Glu Val Asn Val Asn Asp Leu Met Ala Gln
145                 150                 155                 160
Arg Ser Asn Glu Gly Trp Gln Gly Trp Pro Glu Glu Gly Lys Ile Gly
                165                 170                 175
His Leu His Leu Lys Thr His Asn Leu Glu Ser Ala Tyr Glu Phe Tyr
                180                 185                 190
```

```
Val Glu Lys Leu Gly Phe Glu His Ile Ser Asn Phe Pro Gln Ala Leu
        195                 200                 205
Phe Met Ser Thr Gln Lys Tyr His His His Ile Ala Thr Asn Thr Trp
        210                 215                 220
Gln Ser Asn Lys Ile Arg Thr Gln Asn Glu Gln Thr Tyr Gly Leu Cys
225                 230                 235                 240
His Phe Asp Ile Tyr Gln Pro Asn Ala Asn Thr Thr His Val Thr Ser
                245                 250                 255
Pro Glu Gly Phe Asp Ile Thr Ile His Gly Asn Glu Thr Lys
                260                 265                 270
```

```
<210> 4852
<211> 46
<212> PRT
<213> S.epidermidis
```

```
<400> 4852
Met Ser Asn Asp Thr Ser Leu Ile Val Ile Val Arg Ser Ser Ile Ser
1               5                   10                  15
Ala Ser Gln His Asp Phe Glu Lys Ser Tyr Phe Tyr Tyr Val Thr Ile
                20                  25                  30
Phe Ala Lys Leu Asn Ile Arg Leu Phe Asn Glu Ala Tyr Thr
            35                  40                  45
```

```
<210> 4853
<211> 43
<212> PRT
<213> S.epidermidis
```

```
<400> 4853
Val Asp Cys Asp His Val Val Ser Phe Leu Phe Leu Lys Phe Lys Ile
1               5                   10                  15
Ile Leu Ile Ile Tyr Lys Val Asp Lys Ile Pro Asn Ile Lys Tyr Asn
                20                  25                  30
Ile Phe Arg Glu Phe Tyr Ile Leu Lys Met Lys
            35                  40
```

```
<210> 4854
<211> 605
<212> PRT
<213> S.epidermidis
```

```
<400> 4854
Ile Glu Leu Glu Ile Lys Lys Val Phe Asn Met Ser Leu Glu Leu Pro
1               5                   10                  15
Val Met Leu Thr Ile Val Leu Phe Leu Ala Leu Gly Ile Phe Ser Gln
                20                  25                  30
Trp Leu Ala Ser Arg Ile Lys Trp Pro Ser Ile Val Val Met Ala Ile
            35                  40                  45
Val Gly Leu Leu Val Gly Pro Ile Phe Gly Leu Ala Asn Pro Lys Glu
        50                  55                  60
Ala Leu Gly Pro Glu Ala Phe Ser Ser Ile Val Ser Leu Ala Val Ala
65                  70                  75                  80
Ile Ile Leu Phe Glu Gly Ser Ser Asn Leu Asp Phe Arg Glu Leu Lys
                85                  90                  95
Gly Ile Ser Lys Ala Val Ile Arg Ile Ile Thr Ile Gly Ala Gly Ile
```

```
                100                      105                      110
    Ala Trp Ile Leu Gly Ala Ile Ala Leu His Val Thr Met Asn Phe Pro
                115                      120                      125
    Leu Ser Ile Ser Phe Val Ile Gly Gly Leu Phe Leu Ile Thr Gly Pro
                130                      135                      140
    Thr Val Ile Gln Pro Leu Leu Lys Gln Ala Lys Val Lys Arg Asn Val
    145                      150                      155                      160
    Asp Ser Val Leu Arg Trp Glu Ser Ile Ile Leu Asp Pro Ile Gly Pro
                165                      170                      175
    Ile Ile Ala Leu Thr Ala Phe Tyr Val Phe Gln Ile Phe Glu Glu Gly
                180                      185                      190
    Ile Gly Leu Val Val Ile Ile Leu Phe Ile Leu Lys Leu Leu Ala Ala
                195                      200                      205
    Ile Leu Ile Gly Phe Gly Ala Ala Phe Leu Phe Asn Trp Leu Ile Ser
    210                      215                      220
    Gln Asp Lys Ile Pro Gln Ser Leu Met Pro Pro Ile Gln Leu Val Phe
    225                      230                      235                      240
    Ile Leu Leu Thr Phe Ser Ile Cys Asp Glu Ile Leu Ser Glu Ser Gly
                245                      250                      255
    Leu Leu Ala Val Thr Ile Phe Gly Leu Met Met Ala Arg Lys Lys Arg
                260                      265                      270
    His Asp Leu Ile Phe Lys Glu Ser Asp His Phe Ile Asp Asn Ala Ser
                275                      280                      285
    Ser Ile Leu Val Ser Thr Val Phe Ile Leu Ile Thr Ser Ser Leu Thr
                290                      295                      300
    Lys Asp Val Leu Leu Asn Val Leu Ser Trp Gln Leu Ile Leu Phe Ser
    305                      310                      315                      320
    Leu Val Met Ile Val Leu Val Arg Pro Ile Ser Val Leu Leu Ser Thr
                325                      330                      335
    Leu Gly Thr Glu Ile Thr Lys Lys Glu Arg Ala Val Val Ala Leu Met
                340                      345                      350
    Ala Pro Arg Gly Ile Val Val Leu Thr Val Ala Gln Phe Phe Ser Ser
                355                      360                      365
    Leu Phe Met Asp Asp Lys Ile Pro Met Ala Gln Tyr Ile Thr Pro Val
    370                      375                      380
    Thr Phe Gly Leu Val Phe Ile Thr Val Val Ile Tyr Gly Phe Gly Phe
    385                      390                      395                      400
    Thr Pro Leu Ser Lys Leu Phe Gly Val Ala Ser Thr Glu Pro Pro Gly
                405                      410                      415
    Val Ile Ile Val Gly Glu Ser Glu Phe Ser Phe His Leu Gly Ile Asn
                420                      425                      430
    Leu Arg Asp His Gly Ile Pro Val Met Met Phe Asn Leu Phe Glu Asn
                435                      440                      445
    Thr Ser Glu Lys Ala His Glu Ala Gly Phe Glu Val Phe Lys Gly Asn
                450                      455                      460
    Leu Leu Ser Ser Asn Asp Arg Ile Tyr Ser Asp Leu Leu Arg Tyr Asn
    465                      470                      475                      480
    Lys Cys Ile Leu Met Thr Gln Ser Phe Ile Phe Asn Ser Leu Ala Phe
                485                      490                      495
    Asn Glu Leu Val Pro Glu Phe Gly Leu Asn Asn Val Asp Met Met Pro
                500                      505                      510
    Val Ser Phe Asn Asp Glu Gln Ala Arg Asn Asn Leu Asn Gly Pro Ile
                515                      520                      525
    Arg Asn His Ile Leu Phe Asp Glu Asn His Thr Pro Arg Trp Phe Asn
                530                      535                      540
    Gln Phe Ile Thr Gln His Asn Ile Val Glu Val Pro Ala Glu Asp Tyr
```

```
545                  550                  555                  560
Glu Lys Ile Thr Glu Asn Asp Met Leu Ile Tyr His Ile Asn Glu Asp
                 565                  570                  575
Lys Glu Val Thr Phe Lys Arg Ser Asn Arg Asp Ile Pro Glu His Glu
                 580                  585                  590
Thr Gly Val Tyr Gly Ile Leu Lys Asn Ala Tyr Leu Thr
                 595                  600                  605
```

```
<210> 4855
<211> 324
<212> PRT
<213> S.epidermidis
```

```
<400> 4855
Lys Tyr Leu Asp Lys Trp Glu Glu Leu Thr Leu Lys Lys Tyr Leu Asn
1               5                   10                  15
Tyr Thr Leu Ile Leu Ile Ala Leu Ser Leu Ile Val Leu Ser Gly Cys
                20                  25                  30
Ser Leu Pro Gly Leu Gly Asp Gly Asn Ala Lys Asp Asp Val Lys Ile
            35                  40                  45
Thr Thr Thr Glu Thr Ser Glu Thr Lys Ile Ile Gly His Met Glu Lys
            50                  55                  60
Leu Leu Ile Glu His Glu Thr Asp Gly Lys Ile Lys Pro Thr Leu Ile
65                  70                  75                  80
Gly Asn Leu Gly Ser Ser Ile Ile Gln His Asn Ala Leu Gln Arg Gly
                85                  90                  95
Asp Ala Asn Met Ser Ala Val Arg Tyr Thr Gly Thr Glu Leu Thr Ser
            100                 105                 110
Val Leu Ala Ala Lys Pro Thr Lys Asp Pro Asp Lys Ala Met Ser Glu
            115                 120                 125
Thr Gln Arg Leu Phe Lys Lys Lys Tyr Asp Glu Lys Tyr Tyr His Ser
            130                 135                 140
Leu Gly Phe Ala Asn Thr Tyr Ala Phe Met Val Thr Lys Glu Thr Ala
145                 150                 155                 160
Lys Lys Tyr His Leu Lys Lys Val Ser Asp Leu Glu Lys Tyr Lys Asp
                165                 170                 175
Glu Leu Arg Leu Gly Met Asp Thr Gln Trp Met Asn Arg Ala Gly Asp
            180                 185                 190
Gly Tyr Pro Ala Phe Val Lys Asp Tyr Gly Phe Lys Phe Asp Ser Ala
            195                 200                 205
Arg Pro Met Gln Ile Gly Leu Val Tyr Asp Ala Leu Lys Asn Asn Lys
            210                 215                 220
Leu Asp Val Ala Val Gly Tyr Ser Thr Asp Gly Arg Ile Ala Ala Tyr
225                 230                 235                 240
Asp Leu Lys Ile Leu Glu Asp Asp Arg Lys Phe Phe Pro Pro Tyr Asp
                245                 250                 255
Gly Ser Pro Leu Ala Asn Glu Gln Leu Ile Lys Asp Asn Pro Glu Ile
            260                 265                 270
Asp Lys Ala Leu Lys Lys Leu Glu Gly Lys Ile Ser Thr Glu Glu Met
            275                 280                 285
Gln Lys Leu Asn Tyr Glu Ala Asp Gly Lys Gly Lys Glu Pro Ala Val
            290                 295                 300
Ile Ala Glu Glu Tyr Leu Lys Lys His His Tyr Phe Glu Glu Lys Lys
305                 310                 315                 320
Gly Gly His Lys
```

<210> 4856
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4856
Asn Tyr Ile Asp Leu Phe Tyr Asn Leu Asn Tyr Asp Leu Phe Leu Tyr
1   5   10   15
Tyr Phe Thr Thr Asn Tyr Ile Tyr Arg Lys Phe Ile Pro His Asn His
            20   25   30
Leu Asn Val Val Asn Ile Glu Thr Leu Phe
        35   40

<210> 4857
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4857
Tyr Gln Ile Glu Leu Asn Glu Phe Leu Ser Leu Ile His Asn Tyr Trp
1   5   10   15
Tyr Ile Lys Lys Leu Glu Thr Ile Met Ile Val Pro Ser Phe Tyr Tyr
            20   25   30
Lys Tyr Phe Ile Phe Tyr Lys Leu Ser Ser Tyr
        35   40

<210> 4858
<211> 148
<212> PRT
<213> S.epidermidis

<400> 4858
Met Tyr Val Glu Asn Ser Tyr Leu Ser Lys Gln Leu Cys Phe Leu Phe
1   5   10   15
Tyr Val Ser Ser Lys Glu Ile Ile Lys Lys Tyr Thr Asp Tyr Leu Lys
            20   25   30
Glu Tyr Gly Leu Thr Tyr Thr Gly Tyr Ile Val Leu Met Ala Ile Glu
        35   40   45
Asp Asp Glu Lys Leu Asn Ile Lys Lys Leu Gly Glu Arg Val Phe Leu
    50   55   60
Asp Ser Gly Thr Leu Thr Pro Leu Leu Lys Lys Leu Glu Lys Lys Asn
65   70   75   80
Tyr Val Ile Arg Thr Arg Glu Glu Gln Asp Glu Arg Asn Leu Gln Ile
            85   90   95
Ser Leu Thr Glu Arg Gly Lys Asp Ile Gln Asn Val Leu Ser Asp Ile
            100   105   110
Ser Gln Ser Val Phe Asn Glu Phe Asn Ile Thr Gln Glu Glu Thr Gln
        115   120   125
Asn Leu Val Glu Asp Leu Gln Asn Phe Val Thr Lys Asn Phe Asp Lys
        130   135   140
Thr Val Glu Lys
145

<210> 4859
<211> 191

<212> PRT
<213> S.epidermidis

<400> 4859
His Met Gln Glu Asp Arg Lys Phe Glu Val Lys Trp Arg Leu Val Asn
1   5   10   15
Ser Ser Thr Phe Met Tyr Gly Thr Lys Leu Arg Phe Asn Gln Asp Asn
            20   25   30
Ile Tyr Phe Glu Asn Pro Leu Met Pro Ser Gly Thr Ile Ile His Ser
        35   40   45
Trp Tyr Met Leu Thr Asp Phe Ala Glu Asp Arg Val Ser Pro Lys Leu
        50   55   60
Pro Ile Leu Lys Lys Gly Arg Gln Tyr Gln Phe Gln Phe Asn Phe Glu
65   70   75   80
Val Glu Pro Glu Gly Ala Ala Tyr Phe Lys Met Lys Phe Tyr Arg Lys
                85   90   95
Asn Lys Glu Ile Leu Ser His Gln Ile Leu Lys Asn Lys Lys Glu Asn
            100   105   110
Ile Val Tyr Pro Arg Glu Ala Tyr Ser Tyr Glu Leu Glu Leu Ile Asn
        115   120   125
Ala Gly Met Asn His Leu Ser Phe His Asn Ile Ile Val Gln Glu Leu
    130   135   140
Arg Glu Asp Ser Asn Gln Ala Tyr Glu Ala Thr Gln Tyr Ile Asp Pro
145   150   155   160
Lys Lys Lys Leu Lys Val Ile Asn Gln Ile Ile Thr Asn Ile Arg Thr
                165   170   175
His His Leu Asp Thr Ser Asn Tyr His Arg Ser Asp Thr Asn Gly
            180   185   190

<210> 4860
<211> 420
<212> PRT
<213> S.epidermidis

<400> 4860
Cys Ser Glu Glu Lys Glu Glu Met Ser Met Thr Asn Gly Pro Ile Gln
1   5   10   15
Val Asn Ser Glu Ile Gly Lys Leu Lys Thr Val Leu Leu Lys Arg Pro
            20   25   30
Gly Lys Glu Leu Glu Asn Leu Val Pro Asp Tyr Leu Asp Gly Leu Leu
        35   40   45
Phe Asp Asp Ile Pro Phe Leu Lys Val Ala Gln Gln Glu His Asp His
    50   55   60
Phe Ala Gln Val Leu Gln Asp Glu Gly Ile Glu Val Leu Tyr Leu Glu
65   70   75   80
Lys Leu Ala Ala Gln Ser Ile Glu Asp Ser Asn Val Arg Glu Gln Phe
                85   90   95
Ile Asp Asp Val Leu Ala Glu Ser Arg Lys Thr Ile Leu Gly His Glu
            100   105   110
Lys Glu Ile Lys Lys Leu Phe Ser Thr Leu Ser Asn Gln Ala Leu Ile
        115   120   125
Asn Lys Ile Met Ala Gly Val Arg Lys Glu Glu Ile Gln Leu Glu Ser
    130   135   140
Thr His Leu Val Glu Tyr Met Asp Asp Lys Tyr Pro Phe Tyr Leu Asp
145   150   155   160
Pro Met Pro Asn Leu Tyr Phe Thr Arg Asp Pro Gln Ala Ser Ile Gly

```
                    165                   170                   175
Arg Gly Met Thr Val Asn Arg Met Phe Trp Arg Ala Arg Arg Arg Glu
                180                   185                   190
Ser Ile Phe Ile Ser Tyr Ile Leu Lys His His Pro Arg Phe Lys Asp
            195                   200                   205
Glu Asn Ile Pro Leu Trp Val Asp Arg Asp Cys Pro Phe Asn Ile Glu
        210                   215                   220
Gly Gly Asp Glu Leu Val Leu Ser Lys Asp Val Leu Ala Ile Gly Ile
225                   230                   235                   240
Ser Glu Arg Thr Ser Ala Gln Ala Ile Glu Arg Leu Ala Arg Arg Ile
                245                   250                   255
Phe Lys Asn Pro Leu Ser Thr Phe Lys Lys Val Val Ala Ile Glu Ile
                260                   265                   270
Pro Thr Ser Arg Thr Phe Met His Leu Asp Thr Val Cys Thr Met Ile
            275                   280                   285
Asp Tyr Asp Lys Phe Thr Thr His Ser Ala Ile Leu Lys Ser Glu Gly
        290                   295                   300
Asn Met Asn Ile Phe Ile Ile Glu Tyr Asp Asp Lys Ala Glu Asp Ile
305                   310                   315                   320
Lys Ile Gln Arg Ser Ser His Leu Lys Gln Thr Leu Glu Lys Val Leu
                325                   330                   335
Asp Val Asp Glu Ile Thr Leu Ile Pro Thr Gly Asn Gly Asp Ile Ile
            340                   345                   350
Asp Gly Ala Arg Glu Gln Trp Asn Asp Gly Ser Asn Thr Leu Cys Ile
            355                   360                   365
Arg Pro Gly Val Val Val Thr Tyr Asp Arg Asn Tyr Val Ser Asn Gln
        370                   375                   380
Leu Leu Arg Glu His Gly Ile Lys Val Ile Glu Ile Pro Gly Ser Glu
385                   390                   395                   400
Leu Val Arg Gly Arg Gly Gly Pro Arg Cys Met Ser Gln Pro Leu Ile
                405                   410                   415
Arg Glu Asp Leu
            420

<210> 4861
<211> 465
<212> PRT
<213> S.epidermidis

<400> 4861
Asn Gly Glu Glu Lys Ile Met Ala Asp Lys Leu Gln Arg Glu Leu Ser
1                   5                   10                  15
Asn Arg His Ile Gln Leu Ile Ala Ile Gly Gly Ala Ile Gly Thr Gly
            20                  25                  30
Leu Phe Leu Gly Ala Gly Gln Ser Ile His Leu Ala Gly Pro Ser Ile
        35                  40                  45
Leu Leu Thr Tyr Ile Ile Val Gly Phe Val Leu Phe Met Phe Met Arg
        50                  55                  60
Ala Met Gly Glu Leu Leu Leu Ser Asn Leu Gly Phe Lys Ser Phe Gly
65                  70                  75                  80
Asp Ile Ala His His His Ile Gly Ser Met Ala Gly Phe Met Val Gly
            85                  90                  95
Trp Thr Tyr Trp Leu Thr Trp Ile Ile Ser Gly Met Ala Glu Val Thr
        100                 105                 110
Ala Val Ala Lys Tyr Val Ser Phe Trp Tyr Pro Thr Ile Pro Asn Trp
        115                 120                 125
```

```
Leu Thr Ala Ala Ala Thr Ile Leu Val Leu Val Ala Leu Asn Leu Phe
    130                 135                 140
Ser Ala Lys Leu Phe Gly Glu Leu Glu Phe Trp Leu Ser Ile Ile Lys
145                 150                 155                 160
Val Leu Thr Ile Leu Ala Leu Ile Ala Val Gly Val Val Met Ile Val
                165                 170                 175
Phe Gly Met Lys Thr Ser Tyr Gly Pro Ala Thr Val Thr Asn Ile Trp
            180                 185                 190
Lys Asp Gly Gly Phe Phe Pro Asn Gly Ala Gln Gly Phe Phe Met Ser
            195                 200                 205
Phe Gln Met Ala Ile Phe Ser Phe Ile Gly Ile Glu Leu Ile Gly Ile
    210                 215                 220
Thr Ala Gly Glu Thr Lys Asp Pro His Lys Thr Ile Pro Gln Ala Ile
225                 230                 235                 240
Asn Asn Val Pro Phe Arg Ile Leu Leu Phe Tyr Ile Gly Ser Leu Ala
                245                 250                 255
Val Ile Met Ser Val Val Pro Trp Gln Gln Leu Asn Pro Ala Asp Ser
                260                 265                 270
Pro Tyr Val Lys Met Phe Gly Leu Val Gly Ile Pro Phe Ala Ala Gly
            275                 280                 285
Ile Ile Asn Phe Val Val Leu Thr Ala Ala Ala Ser Ser Cys Asn Ser
    290                 295                 300
Gly Ile Phe Ala Asn Ser Arg Thr Met Phe Gly Leu Ala Gly Arg Lys
305                 310                 315                 320
Gln Gly Pro Ala Phe Leu His Arg Thr Asn Lys His Gly Val Pro His
                325                 330                 335
Tyr Ala Ile Leu Val Thr Cys Gly Leu Leu Ser Ile Ser Val Val Leu
            340                 345                 350
Asn Ala Ile Phe Lys Asp Ala Thr Lys Val Phe Val Gln Ile Thr Thr
            355                 360                 365
Phe Ser Thr Val Leu Asn Ile Met Ile Trp Thr Ile Ile Met Ile Ala
    370                 375                 380
Tyr Leu Gly Tyr Leu Arg His Glu Pro Lys Gln His Lys Glu Ser Asn
385                 390                 395                 400
Tyr Lys Met Trp Gly Gly Lys Tyr Met Ala Tyr Ser Ile Leu Gly Phe
                405                 410                 415
Phe Ala Phe Ile Phe Ile Ile Leu Leu Ile Asn Ser Ala Thr Arg Tyr
            420                 425                 430
Ala Val Leu Ser Ala Pro Val Trp Phe Val Ile Met Leu Leu Met Tyr
            435                 440                 445
Gln Lys Tyr Lys Lys Glu Ser Arg Lys Ala Lys Ile Lys Asn Glu Glu
    450                 455                 460
Glu
465
```

```
<210> 4862
<211> 478
<212> PRT
<213> S.epidermidis

<400> 4862
Val Lys Glu Asp Gly Val Val Gly Ser Thr Val Lys Tyr Arg Lys Phe
1               5                   10                  15
Ile Leu Pro Ile Val Val Gly Leu Ile Ile Trp Ala Leu Thr Pro Ile
            20                  25                  30
Lys Pro Asp Ala Leu Asn Asp Gln Ala Trp Phe Met Phe Ala Ile Phe
```

```
        35                    40                    45
Val Ser Thr Ile Ile Ala Cys Ile Thr Gln Pro Met Thr Ile Gly Ala
    50                    55                    60
Val Ser Ile Ile Gly Phe Thr Ile Met Ile Leu Val Gly Ile Val Asp
65                    70                    75                    80
Thr Lys Thr Ala Val Gln Gly Phe Gly Asn Ser Ser Ile Trp Leu Ile
                  85                    90                    95
Ala Met Ala Phe Phe Ile Ser Arg Gly Phe Val Lys Thr Gly Leu Gly
              100                   105                   110
Arg Arg Ile Ala Leu Gln Phe Val Lys Leu Phe Gly Lys Lys Thr Leu
          115                   120                   125
Gly Leu Ala Tyr Ser Leu Val Gly Val Asp Leu Ile Leu Ala Pro Ala
      130                   135                   140
Thr Pro Ser Asn Thr Ala Arg Ala Gly Gly Ile Met Phe Pro Ile Ile
145                   150                   155                   160
Lys Ser Leu Ser Glu Ser Phe Gly Ser Ser Pro Arg Asp Gly Ser Glu
                  165                   170                   175
Arg Lys Met Gly Ala Phe Leu Ile Phe Thr Glu Phe Gln Gly Asn Leu
              180                   185                   190
Ile Thr Ser Ala Met Phe Leu Thr Ala Met Ala Gly Asn Pro Ile Ala
          195                   200                   205
Gln Ser Leu Ala Glu Lys Thr Ala His Val Gln Ile Thr Trp Met Asn
      210                   215                   220
Trp Phe Val Ala Ala Ile Ile Pro Gly Leu Ile Ser Leu Ile Val Val
225                   230                   235                   240
Pro Phe Ile Ile Tyr Lys Leu Tyr Pro Pro Thr Val Lys Glu Thr Pro
                  245                   250                   255
Asn Ala Lys Lys Trp Ala Thr Glu Gln Leu Glu Glu Met Gly His Met
              260                   265                   270
Ser Ile Ala Glu Lys Leu Met Val Gly Val Phe Ile Ile Ala Leu Ala
          275                   280                   285
Leu Trp Val Leu Gly Ser Phe Ile Asn Val Asp Ala Thr Leu Thr Ala
      290                   295                   300
Phe Ile Ala Leu Ala Leu Leu Leu Leu Thr Gly Val Leu Ala Trp Ser
305                   310                   315                   320
Asp Ile Leu Asn Glu Thr Gly Ala Trp Asn Thr Leu Val Trp Phe Ser
                  325                   330                   335
Val Leu Val Leu Met Ala Glu Gln Leu Asn Lys Leu Gly Phe Ile Pro
              340                   345                   350
Trp Leu Ser Lys Leu Ile Ala Gln Gly Leu Asn Gly Phe Ser Trp Pro
          355                   360                   365
Ile Val Leu Val Leu Leu Ile Leu Phe Tyr Phe Tyr Ser His Tyr Leu
      370                   375                   380
Phe Ala Ser Ala Thr Ala His Val Ser Ala Met Tyr Ala Ala Leu Leu
385                   390                   395                   400
Gly Val Ala Val Ala Ser Gly Ala Pro Pro Leu Phe Ser Ala Leu Met
              405                   410                   415
Leu Gly Phe Phe Gly Asn Leu Leu Ala Ser Thr Thr His Tyr Ser Ser
          420                   425                   430
Gly Pro Ala Pro Ile Leu Tyr Ala Ala Gly Tyr Val Thr Gln Lys Arg
      435                   440                   445
Trp Trp Thr Met Asn Ile Val Leu Gly Ile Val Tyr Phe Ile Ile Trp
      450                   455                   460
Ile Gly Val Gly Ser Leu Trp Met Lys Leu Ile Gly Met Met
465                   470                   475
```

<210> 4863
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4863
Leu Glu Arg Glu Leu Lys Leu Lys Ile Lys Arg Tyr Ser Leu His Tyr
1   5   10   15
Met Arg Val Trp Arg Arg Ile Arg Val Lys Phe Arg His Arg Arg Ala
            20   25   30
Thr Gly Leu Ile Cys Ser Ile Phe Leu
        35   40

<210> 4864
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4864
Lys Gly Arg Glu Val Lys Asn Ile Lys Ile Glu Val Lys Tyr Ser Glu
1   5   10   15
Asn Ser Gln Arg Pro Asn Lys Phe Asp Val Ser Cys Glu Ile Asn Gly
            20   25   30
Glu Glu Arg Leu Tyr Ser Ile Glu Asn Ile
        35   40

<210> 4865
<211> 262
<212> PRT
<213> S.epidermidis

<400> 4865
Lys Leu Leu Glu Ala Val Asn Met Phe Lys Ile Gly Asn Leu Glu Leu
1   5   10   15
Gln Ser Arg Leu Leu Leu Gly Thr Gly Lys Phe Glu Asn Glu Glu Val
            20   25   30
Gln Ser Lys Ala Ile Glu Ala Ser Glu Thr Asn Val Leu Thr Phe Ala
        35   40   45
Val Arg Arg Met Asn Leu Tyr Asp Arg Asn Leu Pro Asn Pro Leu Ala
    50   55   60
Asn Val Asn Leu Lys Asp Phe Ile Thr Phe Pro Asn Thr Ala Gly Ala
65   70   75   80
Lys Thr Ala Gln Glu Ala Ile Arg Ile Ala Glu Ile Ala Asn His Ala
            85   90   95
Gly Val Cys Asp Met Ile Lys Val Glu Val Ile Gly Asp Asp Glu Thr
            100   105   110
Leu Leu Pro Asp Pro Phe Glu Thr Tyr Glu Ala Cys Lys Val Leu Leu
        115   120   125
Glu Lys Gly Tyr Thr Val Cys Pro Tyr Ile Ser Asn Asp Leu Val Leu
    130   135   140
Ala Gln Arg Leu Glu Glu Leu Gly Val His Ala Val Met Pro Leu Ala
145   150   155   160
Ser Pro Ile Gly Thr Gly Arg Gly Ile Asn Asn Pro Leu Asn Leu Ser
            165   170   175
Tyr Ile Ile Glu Asn Ala Ser Val Pro Val Ile Val Asp Ala Gly Ile
            180   185   190

```
Gly Ser Pro Lys Asp Ala Cys His Ala Met Glu Leu Gly Ala Asp Gly
        195                 200                 205
Ile Leu Leu Asn Thr Ala Ile Ser Ala Ala Lys Asp Pro Val Lys Met
    210                 215                 220
Ala Glu Ala Met Lys Leu Gly Ile Asn Ala Gly Arg Leu Ser Tyr Glu
225                 230                 235                 240
Ala Gly Arg Ile Pro Val Lys Tyr Thr Ala Gln Ala Ser Ser Pro Ser
                245                 250                 255
Glu Gly Leu Gly Phe Leu
            260
```

<210> 4866
<211> 206
<212> PRT
<213> S.epidermidis

<400> 4866
```
Arg Cys Met Glu Gln Ile Ile Thr Asp Phe Ile Ser Lys Trp Gly Tyr
1                 5                   10                  15
Thr Ala Ile Phe Ile Leu Ile Leu Leu Glu Asn Val Leu Pro Val Val
            20                  25                  30
Pro Ser Glu Ile Ile Leu Thr Phe Ala Gly Leu Leu Ser Val Lys Ser
        35                  40                  45
His Leu Ser Ile Trp Thr Leu Leu Ile Ile Ala Thr Ile Ala Ser Phe
    50                  55                  60
Ile Gly Leu Leu Ile Leu Tyr Tyr Ile Cys Arg Leu Ile Ser Glu Glu
65                  70                  75                  80
Lys Leu Tyr Arg Phe Val Asp Arg His Gly Lys Trp Met Lys Leu Lys
                85                  90                  95
Ser Lys Asp Leu Lys Arg Ala Asn Asp Trp Phe Lys Lys Tyr Gly Ala
                100                 105                 110
Trp Ala Val Phe Leu Cys Arg Phe Val Pro Val Leu Arg Val Leu Ile
            115                 120                 125
Thr Ile Pro Ala Gly Ile Asn Arg Met Asn Val Ile Gln Phe Thr Thr
    130                 135                 140
Leu Ser Leu Ile Gly Thr Thr Ile Trp Asn Phe Ala Leu Ile Leu Leu
145                 150                 155                 160
Gly Arg Leu Leu Ser Asp Ser Phe Asp Ala Leu Met Asn Gly Ile His
                165                 170                 175
Thr Tyr Ser Arg Ile Met Tyr Val Ile Ile Ile Ile Ala Val Ile Tyr
                180                 185                 190
Phe Val Ile Arg Tyr Leu Met Lys Arg Arg Arg Ser Val Lys
            195                 200                 205
```

<210> 4867
<211> 263
<212> PRT
<213> S.epidermidis

<400> 4867
```
Leu Val Met Asp Ile Gln Lys Phe Glu Ser Tyr Leu Lys Ile Lys His
1                 5                   10                  15
Ser Tyr Tyr Ser Asn Pro Ser Leu Glu Ala Leu Asn Tyr Tyr Val Arg
            20                  25                  30
Arg Phe Met Ile Thr Val Pro Phe Glu Asn Ile Asn Val Gln Asn Lys
        35                  40                  45
```

```
Ile Pro Ile Ser Ile Asp Ile Lys Asp Leu Tyr Asn Lys Ile Val Ile
    50                  55                  60
Gln Arg Arg Gly Gly Phe Cys Tyr Glu Leu Asn His Leu Phe Ala Thr
65                  70                  75                  80
Tyr Leu Glu His Lys Gly Phe His Val Thr Arg Ala Ala Ala Thr Val
                85                  90                  95
His Thr Pro Asn Gly Gly Arg Ser Pro Glu Gly Ser His Met Ser Leu
                100                 105                 110
Tyr Val Asn Ile Glu Gly Thr Leu Tyr Ile Thr Asp Val Gly Phe Gly
                115                 120                 125
Asp Leu Pro Thr Ser Ile Ile Glu Ile Gly Ser Lys Thr Gln Phe Ile
    130                 135                 140
Pro Thr Tyr Asp Lys Asn Gly Val Tyr Cys Ala Val Trp Ile Asn Asp
145                 150                 155                 160
Asn Gln Tyr Ala Leu Gln Lys Leu Arg Gln Asn Lys Trp Met Thr Leu
                165                 170                 175
Tyr Glu Ala His Leu Lys Pro Gln Ser Ile Lys Asp Phe Lys Asp Lys
                180                 185                 190
Ile Ser Tyr Asn Glu His His Pro His Ser Ile Phe Val Arg His Leu
    195                 200                 205
Leu Ile Thr Gln Pro Gln Ser Phe Gly Arg Ala Thr Met Thr Tyr His
    210                 215                 220
Ser Leu Thr Leu Ser Asn Asp Ser Thr Lys His Lys Tyr Asp Val Thr
225                 230                 235                 240
Thr Asn Asn Tyr Lys Tyr Phe Leu Lys Lys Tyr Phe Asn Leu Asn Val
                245                 250                 255
Ser Ile Ile Pro Phe Glu Pro
                260
```

<210> 4868
<211> 274
<212> PRT
<213> S.epidermidis

<400> 4868
```
Leu Trp Met Glu Arg Leu Glu Asn Lys Ile Ala Val Ile Thr Gly Ala
1               5                   10                  15
Ser Thr Gly Ile Gly Gln Ala Ser Ala Val Ala Leu Ala Ile Glu Gly
                20                  25                  30
Ala His Val Leu Ala Leu Asp Ile Ser Asp Gln Leu Glu Glu Thr Val
            35                  40                  45
Gln Ser Ile Asn Asp Asn Gly Gly Lys Ala Thr Ala Tyr Arg Val Asp
    50                  55                  60
Ile Ser Asp Asp Lys Gln Val Lys Gln Phe Ser Glu Lys Ile Ala Gln
65                  70                  75                  80
Glu Phe Gly His Val Asp Val Ile Phe Asn Asn Ala Gly Val Asp Asn
                85                  90                  95
Gly Ala Gly Arg Ile His Glu Tyr Pro Val Glu Val Phe Asp Lys Ile
                100                 105                 110
Met Ala Val Asp Met Arg Gly Thr Phe Leu Val Thr Lys Phe Leu Leu
            115                 120                 125
Pro Leu Met Met Lys Gln Gly Gly Ser Ile Ile Asn Thr Ala Ser Phe
    130                 135                 140
Ser Gly Gln Ala Ala Asp Leu Tyr Arg Ser Gly Tyr Asn Ala Ala Lys
145                 150                 155                 160
Gly Gly Val Ile Asn Phe Thr Lys Ser Ile Ala Ile Glu Tyr Gly Arg
```

```
                    165                170                175
Glu Asn Ile Arg Ala Asn Ala Ile Ala Pro Gly Thr Ile Glu Thr Pro
            180                185                190
Leu Val Asp Asn Leu Ala Gly Thr Ser Asp Glu· Glu Ala Gly Gln Thr
        195                200                205
Phe Arg Glu Asn Gln Lys Trp Val Thr Pro Leu Gly Arg Leu Gly Thr
    210                215                220
Pro Asp Glu Val Gly Lys Leu Val Ala Phe Leu Ala Ser Asp Asp Ser
225                230                235                240
Ser Phe Ile Thr Gly Glu Thr Ile Arg Ile Asp Gly Gly Val Met Ala
                245                250                255
Tyr Thr Trp Pro Gly Glu Met Leu Ser Asp Glu Ser Trp Lys Asn Ser
            260                265                270
Thr Lys
```

```
<210> 4869
<211> 63
<212> PRT
<213> S.epidermidis

<400> 4869
Asn Ser Thr Asp Lys Ala Ser Trp Gly Ser Gly Pro Gln Gln Arg Glu
1               5                10                15
Phe His Arg Glu Ile Pro Arg Thr Arg Gln Val Val Gly Asn Leu Asp
            20                25                30
Asn Leu Phe Lys Ile Arg Cys Val Phe Asn Tyr Asp Lys Leu Ser Ser
        35              '   40                45
Leu Phe Cys Phe Val Thr Met Asn Cys Asn Val Lys Ala Phe Arg
    50                55                60
```

```
<210> 4870
<211> 149
<212> PRT
<213> S.epidermidis

<400> 4870
Ile Tyr Ser Leu Leu Ile Asn Asn Lys Glu Ile Cys Pro Leu Asp Leu
1               5                10                15
Thr Asn Gln Lys Ile Leu His Leu Leu Glu Gln Asn Ser Lys Leu Ser
            20                25                30
Leu Ser Glu Ile Gly Lys Glu Val Asn Leu Ser Thr Pro Ser Val Arg
        35                40                45
Glu Arg Ile Tyr Lys Leu Ile Asp Ser Lys Ile Ile Glu Arg Tyr Thr
    50                55                60
Ile Asp Ile Asn Tyr Asp Ala Leu Gly Phe Asp Ile Asn Val Leu Ile
65                70                75                80
Glu Val Thr Ile Lys Asn Asn Leu Tyr Lys Asp Phe Lys Ala Phe Ile
            85                90                95
Ser Val Gln Asn Asn Val Asp Phe Cys Tyr Arg Ile Ser Gly Asp Ser
            100                105                110
Cys Phe Ile Phe Lys Ala His Phe Lys Lys Met Ser Glu Val Glu Thr
        115                120                125
Leu Ile Asn Glu Ile Gln Tyr Tyr Gly His Thr Lys Thr His Phe Ile
    130                135                140
Phe Ser Glu Thr Lys
```

145

<210> 4871
<211> 353
<212> PRT
<213> S.epidermidis

<400> 4871
Pro His Lys Glu Val Phe Thr Met Ser Glu Glu Arg Lys Leu Thr Phe
1   5   10   15
Met Gly Ala Ile Asn Glu Ala Ile Asp Gln Ser Met Glu Lys Asp Glu
            20   25   30
Asp Val Ile Leu Ile Gly Thr Asp Val Ser Gly Gly Ala Lys Val Asp
        35   40   45
His Ile Lys Asp Asp Asp Thr Phe Gly Gly Val Phe Gly Val Thr Lys
        50   55   60
Gly Leu Ala Lys Lys Tyr Ser Arg Lys Arg Val Ile Asp Thr Pro Ile
65   70   75   80
Ala Glu His Ile Thr Leu Ser Thr Ala Val Gly Ala Ala Ala Thr Gly
                85   90   95
Leu Arg Pro Ile Ala Glu Leu Met Phe Asn Asp Phe Ile Gly Phe Gly
            100   105   110
Leu Asp Pro Ile Leu Asn Gln Gly Ala Lys Met Arg Tyr Met Phe Gly
            115   120   125
Gly Lys Ala Lys Ile Pro Leu Val Val Arg Thr Val His Gly Ala Gly
        130   135   140
Ala Ser Ala Ala Ala Gln His Ser Gln Ser Leu Tyr Asn Met Phe Ala
145   150   155   160
Ala Ile Pro Gly Val Lys Val Val Val Pro Ser Asn Pro Tyr Asp Ala
                165   170   175
Lys Gly Leu Leu Met Ser Ala Ile Gln Glu Asn Asn Leu Val Val Phe
            180   185   190
Ser Glu Asp Lys Thr Leu Leu Gly Gln Lys Gly Asn Val Pro Glu Glu
            195   200   205
Pro Tyr Thr Ile Glu Ile Gly Lys Ala Asn Val Thr Arg Glu Gly Asp
        210   215   220
Asp Leu Thr Ile Val Ala Ile Gly Lys Met Val Ala Val Ala Glu Glu
225   230   235   240
Thr Ala Glu Lys Leu Ala Glu Asp Gln Val Ser Val Glu Val Ile Asp
            245   250   255
Leu Arg Ser Val Ser Pro Trp Asp Gln Glu Thr Val Leu Asp Ser Val
            260   265   270
Lys Lys Thr Gly Arg Leu Ile Val Ile Asp Glu Ser Asn Pro Gln Cys
        275   280   285
Asn Ile Ala Gly Asp Val Ala Ser Val Ile Gly Asp Val Gly Phe Asp
        290   295   300
Tyr Leu Asp Gly Pro Ile Lys Lys Val Thr Ala Pro Asp Thr Pro Val
305   310   315   320
Pro Phe Ala Ala Asn Leu Glu Ala Ala Tyr Met Pro Asn Ala Asp Lys
            325   330   335
Val Leu Asp Ile Ala Ser Glu Leu Ile Asp Asp Leu Lys Lys Ala Asn
            340   345   350
Ala

<210> 4872

<211> 317
<212> PRT
<213> S.epidermidis

<400> 4872
Asn Cys Lys Glu Met Glu Tyr Met Lys Ile Ala Ile Ala Gly Ser Gly
1   5   10   15
Ala Leu Gly Ser Gly Phe Gly Ala Lys Leu Phe Gln His Gly Tyr Asp
            20   25   30
Val Thr Leu Ile Asp Asn Trp Glu Pro Gln Val Thr Thr Ile Gln Gln
        35   40   45
Asp Gly Leu His Ile Asp Ile Asn Gly Glu Ala His His Phe Arg Leu
        50   55   60
Pro Met Tyr Arg Leu Thr Glu Ile Pro Lys Ala Thr Ser Tyr Asp Ile
65   70   75   80
Val Phe Leu Phe Pro Lys Ser Met Gln Leu Glu Glu Val Leu Ser His
            85   90   95
Ile Gln Pro His Leu His Asp Asn Thr Ile Val Val Cys Thr Met Asn
            100   105   110
Gly Leu Lys His Glu Arg Leu Ile Gln Gln Tyr Val Ser Ile Asp Arg
        115   120   125
Ile Val Arg Gly Val Thr Thr Trp Thr Ala Gly Ile Asp Gln Pro Gly
    130   135   140
His Thr His Leu Met Gly Gln Gly Pro Val Glu Ile Gly Cys Leu Val
145   150   155   160
Pro Glu Gly Lys Glu Ser Val Asp Ile Ile Val Asn Leu Leu Gln Asn
                165   170   175
Ala Glu Leu Lys Gly Val Lys Ser Glu His Leu His Gln Ser Ile Trp
            180   185   190
Lys Lys Ile Cys Val Asn Gly Thr Ala Asn Ser Leu Cys Thr Ile Leu
        195   200   205
Glu Cys Asn Leu Ala Ala Leu Asn Asn Ser Asp Asp Ala Lys Asn Leu
    210   215   220
Ile Tyr Lys Ile Thr Gln Glu Ile Val His Val Ala Thr Val Asp Asp
225   230   235   240
Val His Leu Asn Val Asp Glu Ile Phe Asp Tyr Leu Ile Ala Leu Asn
                245   250   255
Asp Lys Val Gly Pro His Tyr Pro Ser Met Tyr Gln Asp Leu Ile Lys
            260   265   270
Asp Asn Arg Thr Thr Glu Ile Asp Tyr Ile Asn Gly Ala Val Ser Lys
        275   280   285
Leu Gly Lys Glu Asn His Ile Ala Thr Pro Val Asn Asp Phe Val Thr
    290   295   300
Asn Leu Val His Ala Lys Glu Asn Gln Arg Gly Ala Gln
305   310   315

<210> 4873
<211> 425
<212> PRT
<213> S.epidermidis

<400> 4873
Met Lys Ser Leu Asp Lys Gly Phe Arg His Leu Thr Arg Lys Asp Lys
1   5   10   15
Leu Lys Lys Leu Val Glu Tyr Gly Trp Leu Asp Asp Glu Asn Tyr Glu
            20   25   30

```
Ile Leu Leu Asn His Pro Leu Ile Asn Glu Glu Val Ala Asn Ser Leu
        35                  40                  45
Ile Glu Asn Val Ile Gly Gln Gly Ala Leu Pro Val Gly Leu Leu Pro
    50                  55                  60
Arg Ile Ile Val Asp Asp Lys Glu Tyr Val Val Pro Met Met Val Glu
65                  70                  75                  80
Glu Pro Ser Val Val Ala Ala Ala Ser Tyr Gly Ala Lys Leu Val Asn
                85                  90                  95
Gln Ser Gly Gly Phe Lys Thr Ile Ser Ser Glu Arg Leu Met Ile Gly
            100                 105                 110
Gln Ile Val Phe Asp Asp Val Glu Asp Thr Gly Thr Leu Ala Asn Ser
            115                 120                 125
Ile Tyr Gln Ile Glu Ser Gln Ile His Gln Ile Ala Asp Glu Ala Tyr
    130                 135                 140
Pro Ser Ile Lys Ala Arg Gly Gly Gly Tyr Gln Arg Ile Glu Ile Asp
145                 150                 155                 160
Thr Phe Pro Asn His Arg Leu Leu Ser Leu Lys Val Phe Val Asp Thr
                165                 170                 175
Lys Asp Ala Met Gly Ala Asn Met Leu Asn Thr Ile Leu Glu Ala Ile
            180                 185                 190
Thr Ala His Leu Lys Val Lys Phe Ser Asn Gln Asn Val Leu Met Ser
            195                 200                 205
Ile Leu Ser Asn His Ala Thr Ala Ser Val Val Lys Val Gln Gly Glu
    210                 215                 220
Ile Asp Ile Glu Asp Leu His Arg Gly Glu Arg Ser Gly Glu Glu Val
225                 230                 235                 240
Ala Gln Arg Met Glu Arg Ala Ser Val Leu Ala Gln Val Asp Ile His
            245                 250                 255
Arg Ala Ala Thr His Asn Lys Gly Val Met Asn Gly Ile His Ala Val
            260                 265                 270
Val Leu Ala Thr Gly Asn Asp Thr Arg Gly Val Glu Ala Ser Ala His
    275                 280                 285
Ala Tyr Ala Ser Lys Asp Gly His Tyr Arg Gly Ile Ala Thr Trp Glu
    290                 295                 300
Tyr Asp Arg Ser Arg Asn Lys Leu Val Gly Thr Ile Glu Val Pro Met
305                 310                 315                 320
Thr Leu Ala Thr Val Gly Gly Gly Thr Lys Val Leu Pro Ile Ala Lys
            325                 330                 335
Ala Ser Leu Asn Leu Leu Asn Val Glu Asn Ala Gln Glu Leu Gly Gln
            340                 345                 350
Val Val Ala Ala Val Gly Leu Ala Gln Asn Phe Ser Ala Cys Arg Ala
            355                 360                 365
Leu Val Ser Glu Gly Ile Gln Gln Gly His Met Ser Leu Gln Tyr Lys
    370                 375                 380
Ser Leu Ala Ile Val Val Gly Ala Lys Gly Glu Glu Ile Ala Gln Val
385                 390                 395                 400
Ala Glu Ala Leu Lys Tyr Glu Ser Gln Ala Asn Thr Ala Lys Ala Gln
            405                 410                 415
Glu Ile Leu Met Asn Ile Arg Lys Ser
            420                 425
```

<400> 4874

```
Thr His Leu Leu Val Asn Lys Tyr Lys Phe Lys Val Asn Tyr Ser Val
1               5                   10                  15
Lys Ile Glu Cys Tyr Val Asn Phe Leu Gly Glu Thr Asp Val Ser Leu
            20                  25                  30
Asn Thr Ile Tyr Thr Leu Leu Asn Ser Glu Lys Ser Ala
        35                  40                  45
```

<210> 4875
<211> 308
<212> PRT
<213> S.epidermidis

<400> 4875

```
Leu Asn Leu Leu Leu Asn Tyr Ile Lys Thr Arg Gly Ile Cys Met Asp
1               5                   10                  15
Ile Lys His Met Lys Tyr Phe Val Glu Val Val Lys Gln Gly Gly Met
            20                  25                  30
Thr Asn Ala Ser Lys Ser Leu Tyr Ile Ala Gln Pro Thr Ile Ser Lys
        35                  40                  45
Ala Ile Lys Asp Ile Glu Ala Glu Met Ala Val Pro Leu Phe Asp Arg
    50                  55                  60
Ser Lys Arg Ser Leu Val Leu Thr Asp Ala Gly Lys Ile Phe Phe Lys
65                  70                  75                  80
Lys Cys Gln Glu Ile Ile Ala Leu Tyr Asp Asn Leu Pro Thr Glu Ile
                85                  90                  95
Asn Ser Leu Tyr Gly Leu Glu Thr Gly His Ile Thr Ile Ser Met Ser
            100                 105                 110
Ala Val Met Ser Met Arg Lys Phe Ile Gly Val Leu Gly Asp Phe His
        115                 120                 125
Gln Leu Tyr Pro Asn Ile Thr Tyr Asn Leu Ile Glu Ser Gly Gly Lys
    130                 135                 140
Thr Thr Glu Asn Leu Ile Leu Asn Asp Glu Val Asp Ile Gly Val Thr
145                 150                 155                 160
Thr Leu Pro Val Asp His Gln Lys Phe Glu Cys Ile Ser Leu Asn Lys
            165                 170                 175
Glu Glu Leu Thr Val Val Leu Asn Lys Glu His Pro Leu Ala Gln Lys
            180                 185                 190
Ser Ser Ile Lys Met Glu Glu Leu Ala Asp Glu Asn Phe Ile Leu Phe
        195                 200                 205
Asn Glu Asp Phe Tyr Leu Asn Asp Lys Ile Ile Glu Asn Ala Lys Asn
    210                 215                 220
Ala Gly Phe Val Pro Asn Met Ala Ser Gln Ile Ser Gln Trp Asn Val
225                 230                 235                 240
Ile Glu Asn Leu Val Ile Asn Gln Leu Gly Ile Ser Ile Leu Pro Ala
            245                 250                 255
Thr Ile Ala Gln Leu Leu Asn Asp Asp Val Lys Ile Val His Leu Glu
        260                 265                 270
Asn Ala His Thr Thr Trp Glu Leu Gly Val Val Trp Lys Lys Asp Lys
        275                 280                 285
Arg Leu Ser His Ala Thr Asn Lys Trp Ile Glu Phe Leu Lys Glu Arg
    290                 295                 300
Leu Ser Glu Glu
305
```

<210> 4876

<211> 479
<212> PRT
<213> S.epidermidis

<400> 4876
```
Gln Arg Leu Leu Gly Tyr Leu Lys Phe Thr Arg Asn Tyr Phe Ser Val
1               5                   10                  15
Leu Tyr Ile Ile Ile Arg Leu Gly Gly Tyr Asn Met Phe Asn Phe Leu
            20                  25                  30
Lys Pro Ala Arg His Ile Lys Ser Leu Pro Ala Glu Lys Val Asp Asp
            35                  40                  45
Thr Tyr Lys Arg Leu Arg Phe Gln Val Phe Leu Gly Ile Phe Ile Gly
        50                  55                  60
Tyr Ala Gly Tyr Tyr Leu Leu Arg Lys Asn Phe Ser Leu Ala Met Pro
65                  70                  75                  80
Ser Leu Ile Glu Gln Gly Phe Ile Lys Gly Glu Leu Gly Ile Ala Leu
                85                  90                  95
Ser Ala Val Ser Ile Ala Tyr Gly Phe Ser Lys Phe Val Met Gly Thr
                100                 105                 110
Val Ser Asp Arg Ser Asn Ala Arg Met Phe Leu Thr Leu Gly Leu Val
        115                 120                 125
Leu Thr Ala Ile Ile Asn Leu Leu Leu Gly Phe Ile Pro Phe Phe Thr
        130                 135                 140
Ser Ser Ile Thr Ile Met Phe Ile Met Leu Phe Leu Val Gly Trp Phe
145                 150                 155                 160
Gln Gly Met Gly Trp Pro Pro Ser Gly Arg Val Leu Val His Gly Phe
                165                 170                 175
Ser Val Ser Glu Arg Gly Ser Lys Thr Ser Ile Trp Asn Val Ala His
                180                 185                 190
Asn Val Gly Gly Gly Leu Met Ala Pro Ile Ala Thr Trp Gly Ile Ser
                195                 200                 205
Met Thr Ala Leu Tyr Asn Phe Gly Tyr Leu Lys Gly Phe Glu Gly Val
        210                 215                 220
Phe Ile Tyr Pro Ala Leu Leu Ala Ile Ile Ile Ala Ile Phe Ser Tyr
225                 230                 235                 240
Ile Leu Ile Arg Asp Thr Pro Gln Ser Gln Gly Leu Pro Pro Ile Glu
                245                 250                 255
Gln Tyr Lys Asn Asp Tyr Ala Thr Ser Thr Lys Gln Thr Ile Glu Thr
                260                 265                 270
Glu Leu Thr Thr Lys Glu Ile Leu Phe Lys Tyr Val Leu Asn Asn Lys
        275                 280                 285
Trp Val Trp Ala Ile Ala Phe Thr Asn Ile Phe Val Tyr Phe Val Arg
        290                 295                 300
Tyr Gly Val Leu Asp Trp Ala Pro Thr Tyr Leu Ser Glu Glu Lys His
305                 310                 315                 320
Phe Asp Leu Ser Ala Ser Gly Trp Ala Tyr Phe Leu Tyr Glu Trp Ala
                325                 330                 335
Gly Ile Pro Gly Thr Leu Leu Cys Gly Tyr Leu Ser Asp Lys Leu Phe
                340                 345                 350
Lys Gly Arg Arg Gly Pro Ala Gly Phe Phe Phe Met Leu Gly Val Thr
                355                 360                 365
Ile Phe Ile Leu Ile Tyr Trp Leu Asn Pro Pro Gly His Ala Trp Leu
        370                 375                 380
Asp Asn Leu Ser Leu Ile Gly Ile Gly Phe Leu Ile Tyr Gly Pro Val
385                 390                 395                 400
Met Leu Ile Gly Leu Gln Ala Leu Asp Tyr Val Pro Lys Lys Ala Ala
```

```
                    405                     410                     415
Gly Thr Ala Ala Gly Leu Thr Gly Leu Phe Gly Tyr Leu Phe Gly Ala
                420                     425                     430
Val Met Ala Asn Ile Val Leu Gly Phe Val Val Gln His Phe Gly Trp
            435                     440                     445
His Ile Gly Phe Val Leu Leu Thr Val Ile Ser Ile Leu Ala Met Leu
        450                     455                     460
Cys Phe Ile Leu Thr Trp Asn Lys Arg Gly Gln Glu Gln Ile Asp
465                     470                     475
```

<210> 4877
<211> 62
<212> PRT
<213> S.epidermidis

<400> 4877
```
Ser Lys Leu Leu His Pro Leu Asn Ile Lys Met Met Ile Asp Thr Ile
1                   5                   10                  15
Ile Asn Phe Phe Asn Ile Ser Ala Pro Cys Tyr Asp Gln Phe Ile Arg
                20                      25                      30
Leu Ser Leu Tyr Leu Leu His Tyr Lys Lys Ala Ile Val Ile Asn Ile
            35                      40                      45
Asn Val Asn Cys Lys Leu Ile Met Phe Glu Asn Val Lys Ala
        50                      55                      60
```

<210> 4878
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4878
```
Met Cys Ile Leu Asp Val Asn Lys Ile Ile Ala Cys Tyr Trp Leu Cys
1                   5                   10                  15
Arg His Glu Gln Ile Arg Val Ser Ile Phe Arg Asp Met Lys Leu Ile
                20                      25                      30
Val Leu Phe Val His Ala Phe Phe Val Ala Arg Lys
            35                      40
```

<210> 4879
<211> 317
<212> PRT
<213> S.epidermidis

<400> 4879
```
Gln Met Val Leu Phe Leu Gln Pro Val Phe Gln Glu Arg Leu Trp Gly
1                   5                   10                  15
Gly Thr Asn Leu Thr Gln Phe Gly Tyr Asp Ile Pro Asn Asn Ser Thr
                20                      25                      30
Gly Glu Cys Trp Ala Ile Ser Ala His Lys Asn Gly Pro Asn Thr Ile
            35                      40                      45
Leu Asn Gly Lys His Lys Gly Lys Ser Leu Lys Gln Val Trp Asp Glu
        50                      55                      60
Asp Lys Ala Leu Phe Gly Asn Asp Ser Arg Lys Asp Phe Pro Leu Leu
65                      70                      75                      80
Thr Lys Ile Leu Asp Ala His Asp Cys Leu Ser Val Gln Val His Pro
                85                      90                      95
```

```
Asp Asp Glu Tyr Ala Leu Lys His Glu Gly Glu Tyr Gly Lys Thr Glu
            100                 105                 110
Cys Trp Tyr Ile Leu Asp Ala Gln Pro Gly Ala Glu Ile Ile Tyr Gly
            115                 120                 125
Val Asn Ala Thr Ser Lys Asn Glu Leu Glu His Met Ile Asp His His
    130                 135                 140
Gln Phe Asp Tyr Leu Phe Lys His Val Pro Val Lys Pro Gly Asp Phe
145                 150                 155                 160
Phe Tyr Val Pro Ala Gly Thr Val His Ala Ile Gly Ser Gly Ile Leu
            165                 170                 175
Ile Leu Glu Thr Gln Gln Ser Ser Asp Thr Thr Tyr Arg Ile Tyr Asp
            180                 185                 190
Tyr Asp Arg Lys Asp Lys Asn Gly His Thr Arg Glu Leu His Leu Asn
            195                 200                 205
Gln Ser Lys Asp Val Ile Asp Ile Thr Thr Thr Glu Pro Asn Thr Thr
    210                 215                 220
Pro Lys Thr Glu Met Ile Asn Gly Asn Cys His Thr Gln Phe Val Ala
225                 230                 235                 240
Asn His Phe Phe Thr Val Glu Glu Trp Ser Ile Lys Asp Ile Leu Asp
            245                 250                 255
Phe Gln Lys Pro His Thr Tyr Cys Leu Val Ser Met Ile Asn Gly His
            260                 265                 270
Gly Gln Val Ser Ile Asn Asn Lys Val Tyr Lys Ile Asp Lys Gly Asp
            275                 280                 285
His Phe Ile Leu Thr Ser Glu Asp Gln Tyr Ile Lys Phe Val Gly Asn
            290                 295                 300
Met Asp Leu Ile Val Ser Phe Ser Lys Asp Glu Ala Tyr
305                 310                 315
```

<210> 4880
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4880
```
Phe Asn Ser Leu Asn Lys Leu Leu His Arg Ser Phe Lys Phe Leu Asn
1               5                   10                  15
Tyr Thr Asn Tyr Ile Ser Glu Leu Lys Arg Leu Glu Ile Asn Tyr Phe
            20                  25                  30
Ser Tyr Phe Leu Lys Ser Tyr Ile Ile Cys Ile Asn Arg Ser Lys Glu
            35                  40                  45
Arg Lys Val
    50
```

<210> 4881
<211> 120
<212> PRT
<213> S.epidermidis

<400> 4881
```
Val Ala Ser Leu Leu Glu Cys Ile Val Thr Ala Pro Ala Gly Leu Ile
1               5                   10                  15
Tyr Val Ile Tyr Leu Trp Gln Gln Gln His Ile Thr Phe Gly Leu Asn
            20                  25                  30
Ile Ser Ser Phe Trp Leu Leu Phe Ser Gly Ala Ile Thr Ala Ile Pro
            35                  40                  45
```

```
Leu Ile Leu Phe Ser Ala Gly Ala Lys Arg Ile Pro Leu Ser Leu Thr
    50                  55                  60
Gly Phe Ile Gln Tyr Val Gly Pro Thr Ile Met Phe Ile Leu Gly Ile
65                  70                  75                  80
Phe Val Phe Lys Glu Pro Phe Asn Thr Asp Gln Leu Ile Thr Phe Ile
                85                  90                  95
Phe Ile Trp Ile Gly Ile Val Leu Tyr Ser Ile Ser Gln Tyr Val Gln
                100                 105                 110
Ile Lys Lys Asn Pro Val Val Lys
        115                 120
```

<210> 4882
<211> 454
<212> PRT
<213> S.epidermidis

<400> 4882
```
Lys Glu Ser Leu Leu Gly Gly Asn Ser Met Ser Lys Val Asn His Leu
1               5                   10                  15
Ile Asp Glu Asp Glu Arg Tyr Phe Ala His Ser Gly Arg Ile Lys Tyr
            20                  25                  30
Tyr Pro Leu Val Ile Asp His Gly Tyr Gly Ala Thr Leu Ile Asp Ile
        35                  40                  45
Asp Gly Lys Ser Tyr Ile Asp Leu Leu Ala Ser Ala Ser Ser Gln Asn
    50                  55                  60
Val Gly His Ala Pro Lys Pro Val Val Glu Ala Ile Lys Asn Gln Thr
65                  70                  75                  80
Glu Lys Phe Ile His Tyr Thr Pro Ala Tyr Met Tyr His Glu Pro Leu
                85                  90                  95
Val Arg Leu Ser Lys Lys Leu Cys Asp Ile Ala Pro Gly Asn Tyr Glu
                100                 105                 110
Lys Arg Val Thr Phe Gly Leu Ser Gly Ser Asp Ala Asn Asp Gly Ile
            115                 120                 125
Ile Lys Phe Ala Arg Ala Tyr Thr Gly Arg Pro Tyr Ile Ile Ser Phe
        130                 135                 140
Thr Asn Ala Tyr His Gly Ser Thr Phe Gly Ser Leu Ser Met Ser Ser
145                 150                 155                 160
Ile Ser Leu Asn Met Arg Lys Arg Tyr Gly Pro Leu Leu Asn Gly Phe
                165                 170                 175
Tyr His Ile Pro Phe Pro Asp Lys Tyr Arg Gly Met Phe Glu Gln Ala
            180                 185                 190
Lys Pro Asn Thr Val Glu Glu Tyr Leu Ala Pro Leu Lys Glu Met Phe
            195                 200                 205
Thr Lys Tyr Val Pro Ala Glu Glu Val Ala Cys Ile Val Val Glu Thr
        210                 215                 220
Ile Gln Gly Asp Gly Gly Leu Leu Glu Pro Val Pro Gly Tyr Phe Glu
225                 230                 235                 240
Ala Leu Gln Glu Leu Cys His Ala His Asn Ile Leu Ile Ala Val Asp
                245                 250                 255
Asp Ile Gln Gln Gly Leu Gly Arg Thr Gly Lys Trp Ser Ser Val Asp
            260                 265                 270
His Tyr His Phe Thr Pro Asp Leu Met Thr Phe Gly Lys Ser Leu Ala
        275                 280                 285
Gly Gly Leu Pro Met Ser Ala Ile Val Gly Arg Lys Glu Ile Met Glu
    290                 295                 300
Ser Leu Glu Ala Pro Ala His Leu Phe Thr Thr Gly Ala Asn Pro Val
```

```
305                     310                     315                     320
Ser Cys Glu Ala Ala Leu Ala Thr Ile Lys Met Ile Glu Asp Glu Asp
                325                     330                     335
Leu Leu Asn Ala Ser Trp Lys Lys Gly Ser Tyr Val Arg Lys Arg Ile
                340                     345                     350
Asp Pro Trp Ile Glu Arg Tyr Gln Tyr Val Gly Asp Val Arg Gly Ile
                355                     360                     365
Gly Leu Ser Ile Gly Ile Asp Ile Val Ser Asn Lys Ile Glu Lys Thr
        370                     375                     380
Arg Asp Ser Glu Ala Ala Leu Lys Ile Cys Asn Tyr Cys Phe Glu Asn
385                     390                     395                     400
Gly Val Ile Ile Ile Ala Val Ala Gly Asn Val Leu Arg Phe Gln Pro
                405                     410                     415
Pro Leu Val Ile Thr Tyr Lys Gln Leu Asp Lys Ala Leu Asp Thr Ile
                420                     425                     430
Glu Glu Ala Leu Glu Lys Leu Glu Arg Gly Glu Leu Asn Gln Tyr Asp
        435                     440                     445
Ile Ser Gly Gln Gly Trp
    450
```

<210> 4883
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4883

```
Pro Met Thr Leu Asp Ala Ile Tyr Gln Ala Leu Gly Lys Asn Val Lys
1                   5                   10                  15
Asp Asn Asn Ile Asn Pro Met Thr Val Lys Ala Leu Pro Ser Asn Lys
                20                  25                  30
Gly Leu Leu Gly Pro Asn Asp Cys Asn Ile Ile Ser Pro Thr Arg Ile
        35                  40                  45
Ile Ile Asn Thr Ala Ile Arg Tyr Val Ser Glu Ile Tyr Pro Val Ser
    50                  55                  60
```

<210> 4884
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4884

```
Asn Glu Thr Leu Tyr Arg Met His Ala Tyr Ala Cys Val Leu Phe Phe
1                   5                   10                  15
Val Glu Ile Leu Leu Gln Leu Lys Ala Glu Asn Ile Phe Asp Tyr Tyr
                20                  25                  30
Thr Lys Ile Tyr Leu Ser Gly Glu Lys
        35                  40
```

<210> 4885
<211> 320
<212> PRT
<213> S.epidermidis

<400> 4885

```
Gln Gly Ala Leu Ile Leu Lys Lys Leu Ile Ile Val Ser Ile Ile Ile
1                   5                   10                  15
```

```
Leu Met Leu Ser Gly Cys Ser Ser Phe Asp His Arg Lys Arg Glu Ser
            20                  25                  30
Ile Asn Asp Lys Asn Lys Met Lys Val Tyr Thr Thr Val Tyr Ala Phe
            35                  40                  45
Gln Ser Leu Thr Gln Gln Ile Gly Gly Lys Tyr Val Asp Ala Gln Ser
            50                  55                  60
Ile Tyr Pro Ala Gly Ala Asp Leu His Ser Tyr Glu Pro Thr Gln Lys
65                  70                  75                  80
Asp Met Ile Asp Ile Ala Lys Ser Asp Leu Phe Val Tyr Ser Ser His
                85                  90                  95
Gln Leu Asp Pro Val Ala Ala Lys Ile Thr Asn Ser Met Thr Asn Asn
            100                 105                 110
Ser Met Lys Leu Ala Leu Ala Glu Gly Leu Lys Gln Ser Asp Phe Ile
            115                 120                 125
His Ser Lys Asp His Asp Glu Asn His Glu His His Ser His His Glu
        130                 135             140
Glu Ser Asn Gln Asp Pro His Val Trp Leu Asp Pro Val Leu Asn Gln
145                 150                 155                 160
Lys Phe Ala Phe Met Ile Lys Glu Lys Leu Ile Glu Lys Asp Pro Lys
                165                 170                 175
His Gln Ala Tyr Tyr Asn Lys Asn Tyr Lys Ile Val Asn Lys Asp Ile
            180                 185                 190
Val His Ile Asp Gln Gln Leu Gln Ser Ile Thr Lys His Ser Lys Arg
            195                 200                 205
Asp Lys Val Val Ile Ser His Asp Ser Leu Gly Tyr Leu Ala His Arg
        210                 215                 220
Tyr Gly Phe Lys Gln Gln Gly Val Lys Gly Met Asn Asp Glu Glu Pro
225                 230                 235                 240
Ser Gln Lys Glu Ile Leu Asn Ile Val Lys Asp Ile Gln His Ser His
                245                 250                 255
Ala Pro Tyr Val Leu Tyr Glu Gln Asn Ile Thr Ser Lys Ile Thr Asp
            260                 265                 270
Val Ile Lys Lys Glu Thr Asp Thr Lys Pro Leu Ser Phe His Asn Leu
            275                 280                 285
Ala Val Leu Thr Lys Glu Glu Gln Asn Asp Asp Ser Ile Ser Tyr Gln
        290                 295                 300
Ser Leu Met Lys Lys Asn Ile Tyr Val Leu Asn Arg Ala Leu Asn Asn
305                 310                 315                 320
```

```
<210> 4886
<211> 45
<212> PRT
<213> S.epidermidis
```

```
<400> 4886
Ile Gln Phe Cys Arg Arg Lys Val Gln Lys Leu Lys Asn Cys Leu Leu
1               5                   10                  15
Lys Met Ile Ser Lys Asn Leu Ile Ile Lys Met Asn Ile Asp Ile Asp
            20                  25                  30
Leu Asn Tyr Thr Phe Asn Ile Gly Ile Ile Phe Lys Ile
            35                  40                  45
```

```
<210> 4887
<211> 254
<212> PRT
<213> S.epidermidis
```

<400> 4887
Lys Gly Val Cys Ile Val Leu Leu Glu Val Lys Asn Val Lys Lys Val
1   5   10   15
Tyr Gly Arg Gly Met Asn Thr Thr Met Ala Leu Asn Gln Met Asn Leu
            20   25   30
Glu Ile Asp Glu Asn Glu Phe Val Ala Ile Met Gly Glu Ser Gly Ser
            35   40   45
Gly Lys Ser Thr Leu Leu Asn Leu Ile Ala Thr Phe Asp Arg Thr Thr
        50   55   60
Glu Gly Leu Ile Lys Leu Asp Gly Leu Pro Leu Asn Gln Leu Lys Asn
65   70   75   80
Lys Asp Ile Ala Arg Phe Arg Arg Glu Met Met Gly Phe Val Phe Gln
                85   90   95
Asp Phe Asn Val Leu Asn Thr Met Ser Asn Lys Asp Asn Ile Leu Met
            100   105   110
Pro Leu Val Leu Ala Asn Glu Arg Pro Lys Ile Met Gln Lys Arg Leu
        115   120   125
Met Glu Ile Ser Glu Gln Leu Gly Ile Glu Asp Leu Leu Glu Lys Tyr
    130   135   140
Pro Ser Glu Ile Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg
145   150   155   160
Ala Leu Ile Ala Arg Pro Lys Leu Leu Leu Ala Asp Glu Pro Thr Gly
                165   170   175
Ala Leu Asp Ser Lys Thr Ser Lys Asn Leu Met Cys Leu Phe Arg Lys
            180   185   190
Ile Asn Gln Lys His Gln Thr Ile Leu Met Val Thr His Ser Asn Ile
            195   200   205
Asp Ala Ser Tyr Ala Asn Arg Val Ile Phe Ile Lys Asp Gly Arg Leu
    210   215   220
Tyr His Glu Ile Tyr Arg Gly Glu Glu Ser Gln Thr Asp Tyr Gln Lys
225   230   235   240
Arg Ile Ala Asp Ser Leu Ala Ile Leu Asn Gly Val Gly Asp
                245   250

<210> 4888
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4888
Thr Ile Ser Cys Val Ile Leu Tyr Ile Lys Phe Leu Ala Ser Ser Leu
1   5   10   15
Leu Phe Ser Ala Ala Lys Leu His Ser Ser Ile Val His Asn Glu Leu
            20   25   30
Ala Val Pro Leu Thr His Ile Phe Phe Gln Ile Asp
        35   40

<210> 4889
<211> 138
<212> PRT
<213> S.epidermidis

<400> 4889
Thr Met Pro Trp Thr Met Glu Asp Tyr Pro Gln Ser Trp Lys Asn Phe
1   5   10   15

```
Glu Glu Leu Glu Arg Lys Lys Ala Ile Asp Ile Gly Asn Ala Met Leu
            20              25              30
Lys Asp Gly Tyr Lys Glu Ser Asp Val Ile Pro Ile Ala Thr Asn Gln
            35              40              45
Ala Glu Lys Trp Tyr Gln His.Ala Ser Lys Glu Glu Leu Glu Thr Leu
    50              55              60
Lys Asn Lys His Ile Thr Gln His Gln Glu Asp Glu Ser Ala Asn Pro
65              70              75              80
Lys Leu Asn Glu Glu Asn Val His Val Tyr Tyr Glu Asp Gln Leu Trp
            85              90              95
Lys Val Lys Ser Thr Glu Ala Lys Arg Ala Ser Asp Thr Phe Asp Thr
            100             105             110
Lys Ser Glu Ala Val Asn Arg Ala His His Ile Ala Glu Asn Lys Gly
        115             120             125
Thr Lys Val Val Glu His Arg Lys Asp Glu
    130             135
```

```
<210> 4890
<211> 54
<212> PRT
<213> S.epidermidis
```

```
<400> 4890
Met Leu Asn Cys Ser Ser Asp Val Thr Tyr Val Ser Gln Ser Ile Ile
1               5               10              15
Asn Asn Arg Asn His Ser Ile Thr Pro Leu Asp Asp Gly Ile Arg Pro
            20              25              30
Ser Ser Phe Cys Ala Arg Glu Ile Phe Asn Ala Leu Ala Lys Asp Leu
        35              40              45
Asn Ile Ala Ser Ile Ser
    50
```

```
<210> 4891
<211> 41
<212> PRT
<213> S.epidermidis
```

```
<400> 4891
Val Ile Asp Trp Tyr Leu Ser Ile Leu Arg Ser Val Asp Ala Lys Leu
1               5               10              15
Thr Lys Asp Leu Leu Leu Ser Val Leu Glu Val Val Gly Val Glu Asn
            20              25              30
Cys Phe Ala Leu Val Val Val Leu Thr
        35              40
```

```
<210> 4892
<211> 80
<212> PRT
<213> S.epidermidis
```

```
<400> 4892
Met Asn Cys Cys His Arg Leu Leu Lys Gln Lys Gln Val Gln Gln Cys
1       ·       5               10              15
Lys Val Lys Val Phe Ser Phe Asn Gln Thr Pro Tyr Ser Tyr Tyr Ser
            20              25              30
Asn Arg Asn Lys Asn Ile Leu Ser Arg Tyr Tyr Ile Ile Val Asn Lys
```

```
                35                    40                    45
Glu Leu Leu Ala Asn Lys Cys Ser Glu Ser Ser Asn Ser Ile Asn Tyr
    50                    55                    60
Tyr Phe Lys Leu Phe Thr Asn Arg Asn Asn Tyr Tyr Leu Gln Ile Thr
65                    70                    75                    80
```

<210> 4893
<211> 249
<212> PRT
<213> S.epidermidis

<400> 4893
```
Met Lys Phe Cys Pro His Cys Gly Asn Pro Ile Lys Lys Glu Gln Ser
1                   5                   10                    15
Phe Cys Asn Lys Cys Gly Lys His Leu Lys Thr Ser Thr Gln Arg Lys
                20                    25                    30
Ser Glu Asn Gln Ile Glu His Met Arg Glu Gln Gln Ser Tyr Ile Ser
            35                    40                    45
Arg Glu Glu Arg Gln His His Asp Ser Thr Phe Tyr Lys Glu Gln Lys
        50                    55                    60
His Thr Gly Trp Leu Ile Val Leu Ser Ile Ile Phe Val Leu Leu Ile
65                    70                    75                    80
Ala Ala Leu Leu Tyr Gly Ala Tyr Tyr Ala Tyr Asn His Tyr Ile Ser
                85                    90                    95
Asp Glu Gln Ser His Gln Thr Thr Glu Ser Gln Gln Ser Asn Glu Ser
            100                   105                   110
Asp Gln Asn Arg Asp Gln Ser Thr Gly Pro Ser Ile Asp Val Phe Ser
        115                   120                   125
Asp Asp Phe Asp Gln Gly Tyr Met Lys Ser Ala Ser Thr Ser Gly Tyr
        130                   135                   140
Arg Gly Val Tyr Asn Gly Met Thr Arg Glu Glu Val Glu Asp Lys Phe
145                   150                   155                   160
Gly Thr Ser Asn Gly Ser Val Glu Ser Leu Lys Trp Ser Tyr Glu Thr
                165                   170                   175
Tyr Gly Asp Leu Ala Val Ala Tyr Asp Asp Asn Glu Val Val Ser Val
            180                   185                   190
Gly Val Ala Pro Asn His Ile Ser Glu Asp Gln Phe Leu Ser Met Tyr
            195                   200                   205
Asn Glu Pro Asp Asp Arg Asn Ser Ser Gln Leu Ile Tyr Asp Ser Asn
        210                   215                   220
Lys Asp Asn Asp Phe Ser Val Leu Val Asn Val Lys Asn Gly Asp Val
225                   230                   235                   240
Thr Val Ile Glu Asn Val Asn Gln Ile
                245
```

<210> 4894
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4894
```
Val Cys Ser Cys Phe Ile Leu Val Lys Ile Asn Ser Tyr Val Ile Thr
1                   5                   10                    15
Leu Lys Gly Ala Ser Ser Cys Tyr Asp Cys Arg Thr His Asn Asn Ile
                20                    25                    30
Tyr Ile Lys Cys Phe His Arg Arg Tyr Gly
```

35   40

<210> 4895
<211> 262
<212> PRT
<213> S.epidermidis

<400> 4895
Met Lys Arg Leu Leu Leu Cys Ile Val Ala Leu Val Phe Val Leu Ala
1   5   10   15
Ala Cys Gly Asn Asn Ser Ser Asn Asn Lys Asp Asn Gln Ser Ser Ser
            20   25   30
Lys Asp Lys Asp Thr Leu Arg Val Gly Thr Glu Gly Thr Tyr Ala Pro
        35   40   45
Phe Thr Tyr His Asn Lys Lys Asp Gln Leu Thr Gly Tyr Asp Ile Asp
        50   55   60
Val Ile Lys Ala Val Ala Lys Glu Glu Asn Leu Lys Leu Lys Phe Asn
65   70   75   80
Glu Thr Ser Trp Asp Ser Met Phe Ala Gly Leu Asp Ala Gly Arg Phe
                85   90   95
Asp Val Ile Ala Asn Gln Val Gly Val Asn Lys Asp Arg Glu Lys Lys
            100   105   110
Tyr Lys Phe Ser Glu Pro Tyr Thr Tyr Ser Ser Ala Val Leu Val Val
            115   120   125
Arg Glu Asn Glu Lys Asp Ile Thr Ser Phe Asn Asp Val Lys Gly Lys
        130   135   140
Lys Leu Ala Gln Thr Phe Thr Ser Asn Tyr Gly Gln Leu Ala Lys Asp
145   150   155   160
Lys Gly Ala Asp Ile Thr Lys Val Asp Gly Phe Asn Gln Ser Met Asp
            165   170   175
Leu Leu Leu Ser Lys Arg Val Asp Gly Thr Phe Asn Asp Ser Leu Ser
            180   185   190
Tyr Leu Asp Tyr Arg Lys Gln Lys Pro Asn Ala Lys Ile Lys Ala Ile
        195   200   205
Lys Gly His Ala Glu Gln Asn Lys Ser Ala Phe Ala Phe Ser Lys Lys
        210   215   220
Val Asp Glu Lys Thr Ile Glu Lys Phe Asn Lys Gly Leu Glu Lys Ile
225   230   235   240
Arg Asp Asn Gly Glu Leu Ala Lys Ile Gly Lys Lys Trp Phe Gly Gln
                245   250   255
Asp Val Ser Lys Pro Glu
            260

<210> 4896
<211> 54
<212> PRT
<213> S.epidermidis

<400> 4896
Val Ile Leu Cys Asn Asp Ser Glu Val Tyr Phe Phe Asp Ile Gln Arg
1   5   10   15
Gln Lys Arg Tyr Phe Ile Ser Ile Gln Ile Ser Glu Ser Leu Phe Phe
            20   25   30
Leu Ile Leu Ser Thr Ile Asn Lys Asn Phe Phe Pro Leu Thr Leu Phe
        35   40   45
Ile Asp Arg Ala Asp Thr

50

<210> 4897
<211> 176
<212> PRT
<213> S.epidermidis

<400> 4897
Thr Leu Arg Leu Lys Val Lys Gly Ser Met Lys Met Lys Ser Ser Val
1   5   10   15
Arg Leu Leu Asn His Ile Ile Lys Ile Met Asn Leu Gln Gln Ser Leu
            20   25   30
Ile Ile Arg Asp Glu Gln Trp Asn Gln Ser Tyr Glu Ala Tyr Asn Phe
            35   40   45
Asn Ile Asn Gly Tyr Val Phe Lys Ser Arg Leu Ala Lys Lys Thr Thr
        50   55   60
Lys Lys Lys Gly Tyr Phe Leu Ser Leu Trp Glu Lys Asp Lys Thr Lys
65   70   75   80
Lys Asn Arg Ala Phe Asp Tyr Glu Ser Phe Pro Gly Lys Leu Ile Val
            85   90   95
His Val Leu Asp Asp Ser Gln Val Gly Gln Phe Ile Phe Pro Lys His
            100   105   110
Val Leu Phe His Lys Gly Ile Leu Arg Asn His Ala Ser Lys Gly Lys
        115   120   125
Met Ala Phe Arg Val Tyr Pro Thr Trp Glu Lys Asp Leu Asn Arg Val
    130   135   140
Ala His Lys Thr Gln Glu Trp Gln Lys Gln Tyr Phe Ile Asp Met Ser
145   150   155   160
Gln Thr Ile Asp Val Pro Ser Ile Lys Arg Ala Tyr Phe Asn Glu Asp
            165   170   175

<210> 4898
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4898
His Tyr Leu Cys Leu Asn Ile Ser Phe Asn Leu Cys Leu Ser Arg Glu
1   5   10   15
Phe Phe Lys Leu Ile Ala Ser Leu Thr Tyr Ser Tyr Val Ile Ile Ile
            20   25   30
Glu Arg Lys Asn Leu Phe Asp Tyr Cys Ile Asp Val
        35   40

<210> 4899
<211> 396
<212> PRT
<213> S.epidermidis

<400> 4899
Lys Gly Val Trp Lys Ser Met Glu Glu Ser Lys Asn Tyr Asn Leu Ile
1   5   10   15
Thr Thr Ile Met Phe Ile Ser Gly Ile Ile Val Met Ala Ser Leu Tyr
            20   25   30
Thr Ala Leu Pro Leu Thr Ala Thr Phe Ala Glu Asp Phe His Val Pro
            35   40   45

```
Lys Ser Ile Ala Thr Leu Asn Gly Val Leu Phe Ser Leu Thr Tyr Ser
    50                  55                  60
Ile Ser Cys Leu Phe Tyr Gly Thr Ile Ser Glu Lys Tyr Gly Arg Ile
65                  70                  75                  80
Lys Thr Ile Leu Val Gly Met Ser Ala Leu Val Ile Ile Cys Leu Met
                85                  90                  95
Ile Gly Ile Val His Ser Phe Thr Val Leu Leu Ile Leu Arg Ala Leu
                100                 105                 110
Gln Gly Val Phe Ala Ala Ser Phe Ser Pro Val Val Met Thr Tyr Thr
                115                 120                 125
Thr Glu Thr Tyr Pro Arg Val Lys Arg Val Thr Ala Ile Ser Phe Ile
    130                 135                 140
Ser Thr Ser Phe Met Leu Ser Gly Val Leu Gly Gln Asn Met Ser Glu
145                 150                 155                 160
Leu Val Val Ser Tyr Leu Asn Trp Gln Trp Val Tyr Phe Ile Leu Thr
                165                 170                 175
Ile Leu Tyr Leu Ile Leu Val Leu Val Ile Tyr Lys Asn Val Pro Glu
                180                 185                 190
Ser Pro His Lys Asn Pro Asp Ile Gln Leu Ile Lys Phe Phe Asn Asn
                195                 200                 205
Phe Lys Asp Phe Lys Asp Asn Leu Lys Val Phe Tyr Cys Leu Phe Ile
    210                 215                 220
Ser Leu Thr Leu Leu Ile Met Phe Ile Ser Met Tyr Asp Ile Leu Asn
225                 230                 235                 240
Glu Tyr Val Thr Ser His Gln Val Gly Gly Asp Met Ser Val Ser Ser
                245                 250                 255
Met Met Lys Leu Phe Gly Val Ile Gly Met Leu Leu Ser Leu Leu Ala
                260                 265                 270
Gly Arg Val Ser Ser Arg Ile Gly Met Lys Arg Leu Leu Thr Ile Ala
                275                 280                 285
Leu Thr Thr Cys Ile Val Ser Ile Ile Leu Met Gly Val Thr Thr Asn
    290                 295                 300
Ile Ile Leu Ile Thr Thr Phe Ser Val Leu Phe Val Ala Gly Ile Ala
305                 310                 315                 320
Phe Ala Ile Pro Thr Val Ile Ser Lys Ile Gly Val Val Val Lys Asn
                325                 330                 335
Asn Gln Gly Phe Phe Leu Ser Val Asn Thr Phe Val Leu Phe Leu Gly
                340                 345                 350
Thr Ala Ile Ala Pro Ile Leu Met Leu Phe Val Gly Glu Leu Ser Asn
    355                 360                 365
Phe Phe Leu Gln Phe Leu Met Ile Ala Ile Val Gly Leu Ile Ala Leu
    370                 375                 380
Val Val Ser Ile Phe Met Pro Gly Asp Gln Arg Ser
385                 390                 395
```

```
<210> 4900
<211> 53
<212> PRT
<213> S.epidermidis

<400> 4900
Ile Ile Phe Leu Val Ser Ser Asp Tyr Leu Leu Val Thr His Leu Ile
1                   5                   10                  15
Phe Cys Tyr Pro Ser Tyr Ile Tyr Ser Ser Gln Leu Ala Ile Asn Leu
                20                  25                  30
Tyr Thr Tyr Ile Leu His Val Val Tyr His Phe Leu Lys Leu Leu Ile
```

```
            35                    40                     45
Ile Ile Val Ser Asn
    50
```

<210> 4901
<211> 213
<212> PRT
<213> S.epidermidis

<400> 4901

```
Leu Asn Gly Trp Arg Asn Phe Phe Met Asp Lys Leu Thr Val Gly Leu
1               5                   10                  15
Glu Trp Phe Leu Asn Pro Asp His Met Pro Leu Ile Leu Gly Ile Glu
            20                  25                  30
Lys Gly Trp Phe Lys Glu Glu Ser Leu Glu Ile Glu Met Ile Glu Pro
        35                  40                  45
Lys Glu His Phe Asp Ala Leu Asp Glu Ile Glu Asn Gly Ser Met Asp
    50                  55                  60
Ile Ala Ile Thr Glu Pro Ile His Leu Val Gln Asp Arg Ala Lys Glu
65                  70                  75                  80
Gln Lys Val Ile Gly Phe Ala Arg Tyr Leu His Thr Asn Gly Gly Ile
                85                  90                  95
Met Tyr Asn Lys Asp Lys Asn Ile Ala Arg Pro Lys Asp Leu Ile Gly
            100                 105                 110
Lys Arg Leu Gln Tyr Pro Gly Ala Pro Gly Pro Gly Gly Ile Ala Met
        115                 120                 125
Ala Lys Thr Met Ile Glu Ala Asp Gly Gly Thr Phe Glu Glu Gly Asp
        130                 135                 140
Ile Thr Pro Val Asn His Ser Phe Tyr His Thr Asp Ala Leu Leu Thr
145                 150                 155                 160
Asp Lys Ala Asp Ala Ala Thr Leu Ile Phe Glu Asn Phe Glu Ile Leu
            165                 170                 175
Glu Ala Arg Asn Gln Gly Leu Asn Val Asp Tyr Phe Pro Leu Lys Asn
            180                 185                 190
Tyr Asn Val Pro Asp Phe Cys Gln Leu Ile Phe Ile Thr Thr Pro Glu
            195                 200                 205
Val Leu Asn Thr Glu
        210
```

<210> 4902
<211> 510
<212> PRT
<213> S.epidermidis

<400> 4902

```
Ser Arg Gly Cys Ser Met Lys Ile Lys Leu Phe Val Ile Val Val Ile
1               5                   10                  15
Phe Leu Met Thr Ile Leu Ser Ile Ile Ser Ile Thr Thr Arg Glu Ile
            20                  25                   30
Ala His Ser Lys Asn Glu Thr Ile Leu Thr His Ala Ser Gln Lys His
        35                  40                  45
Ile Asp Lys Met Val Glu Thr Ala Met Lys Lys Gly Asp Ile Pro Gly
    50                  55                  60
Leu Ala Ile Leu Ile Ile Lys Asp Asn Lys Ile Phe Leu Asn Lys Gly
65                  70                  75                  80
Tyr Gly Tyr Ala Asn Ile Glu Lys Lys Ala Lys Val Asn Pro His Thr
```

```
                      85                    90                    95
Gln Phe Glu Ile Ala Ser Asn Thr Lys Ala Phe Thr Gly Tyr Ala Ile
                100                   105                   110
Leu Gln Leu Ala Gln Glu Gly Lys Ile Asn Leu Asn Asp Lys Val Ser
            115                   120                   125
Thr Phe Ile Pro Gly Phe Lys Met Lys Tyr Glu Asp Lys Glu Arg Asp
        130                   135                   140
Ile Thr Ile Glu Gln Leu Leu Ala Gln Thr Ser Gly Ile Pro Gly Asp
145                   150                   155                   160
Ile Thr Glu Glu Asn Arg Tyr Ser Lys Gln Tyr Asp Ser Ile Glu Asn
                165                   170                   175
Ile Val Asn Phe Ala Lys Gly Lys Arg Leu Asn His Val Pro Gly Glu
                180                   185                   190
Thr Phe Glu Tyr Ser Asn Met Asn Tyr Asp Ile Leu Gly Leu Ile Ile
            195                   200                   205
Gln Asn Val Thr His Gln Ser Tyr Thr Ser Tyr Ile Gln Lys His Val
            210                   215                   220
Leu Ala Pro Leu Lys Met Lys His Thr Thr Phe Lys Val Asn Asn Thr
225                   230                   235                   240
Lys Ser Asn Asn Glu Ala Leu Gly Tyr Ile Trp Glu Asp Asn Glu Asn
                245                   250                   255
Lys Val Ala Gln Pro Glu Phe Asn Ile Gly Asp Thr Pro Ala Ala Tyr
            260                   265                   270
Met Met Ser Ser Thr Ser Asp Leu Ala Lys Trp Val Gln Leu Gln Ile
            275                   280                   285
His Pro Thr Ser Lys Ser Gln Ala Lys Leu Ile Arg Gln Ser His Gln
            290                   295                   300
Val Leu Ser Asn Ser Leu Asn Ser Glu Pro Asn Ala Asp Ser Tyr Gly
305                   310                   315                   320
Ser Gly Trp Phe Ile Asn Thr Asp Asp His Leu Val Phe His Thr Gly
                325                   330                   335
Val Leu Asp Asn Phe Ser Ser Gln Ile Leu Leu Asn Ile Arg Lys Ser
            340                   345                   350
Tyr Gly Ile Val Val Leu Ala Asn Thr Asn Ser Asn Gln Val Thr Arg
            355                   360                   365
Leu Ala Glu His Leu Asn Thr Gln Ile Met Asn Asn Arg His Tyr Thr
            370                   375                   380
Thr Ile Glu Glu Lys Val Asn Gln Thr Lys Asp Met Gln Leu Ile Ile
385                   390                   395                   400
Ser Thr Leu Ala Asp Ile Phe Met Val Ile Phe Ser Ile Leu Val Phe
                405                   410                   415
Ser Lys Ile Leu Lys Leu Arg Glu Gly His Ile Phe Ile Arg Lys Cys
            420                   425                   430
Leu Arg Thr Ser Ile Met Phe Ser Ile Ile Leu Leu Gly Phe Val Ala
            435                   440                   445
Met Asn Ile Leu Phe Tyr Leu Leu Pro Leu Ile Ile Leu Gly Asp Ala
        450                   455                   460
Thr Trp Gly Phe Val Leu Ser Trp Leu Pro Leu His Ser Lys Tyr Leu
465                   470                   475                   480
Val Val Ser Val Tyr Leu Ala Ile Thr Met Leu Leu Val Trp Leu Ser
                485                   490                   495
Leu Ile Ser Ile Thr Tyr Arg Ser Asp Lys Lys Lys His
            500                   505                   510
```

<210> 4903
<211> 650

```
<212> PRT
<213> S.epidermidis

<400> 4903
Leu Asn Leu Trp Asp Val Arg Glu Arg Lys Ile Gly Met Gln Gln Ile
1               5                   10                  15
Ile Asn Ser Leu Ile His Phe Asp Arg Ser Lys Ile Asp Ile Ala Lys
            20                  25                  30
Gly Ile Arg Gln Gly Phe Leu Met Ile Leu Pro Ala Leu Ile Gly Tyr
        35                  40                  45
Leu Leu Gly Phe Pro Met Phe Gly Ile Leu Ile Ser Thr Gly Thr Leu
    50                  55                  60
Ala His Val Tyr Val Phe Ser Gly Ser Pro Gln Ser Met Leu Lys Thr
65                  70                  75                  80
Val Ile Thr Cys Ser Leu Ser Phe Thr Ile Cys Met Ile Leu Gly Thr
                85                  90                  95
Leu Thr Val Ser Gln Pro Ile Leu Phe Gly Leu Leu Leu Leu Ile Val
            100                 105                 110
Val Thr Ile Pro Tyr Tyr Thr Phe Asn Ala Leu Lys Ile Ala Gly Pro
            115                 120                 125
Ser Ser Thr Phe Phe Leu Val Thr Phe Cys Leu Ser Ile Asn Leu Pro
    130                 135                 140
Ile Ala Pro Glu Glu Ala Leu Leu Arg Gly Ser Ala Ile Leu Ile Gly
145                 150                 155                 160
Gly Ile Leu Ala Thr Ile Thr Val Ile Leu Thr Ile Ile Phe Ala Lys
                165                 170                 175
Glu Lys Ala Glu Asp Arg Ala Ile His Ala Asp Phe Lys Thr Leu His
            180                 185                 190
Asn Leu Leu His His Phe Asp Glu Pro Glu Asp Phe Lys Ala Tyr Ala
            195                 200                 205
Arg Asn Ala Val Thr Glu Phe Arg Asn Ser Glu Lys Leu Leu Ile Thr
    210                 215                 220
Ser Thr Ser Gly Gly Asn Gly Lys Leu Ser Lys Arg Phe Gln Lys Leu
225                 230                 235                 240
Ile Leu Leu His Thr Ser Ala Gln Gly Ile Tyr Ser Glu Leu Leu Glu
                245                 250                 255
Leu Asn Glu Asn His Ile Arg Pro Leu Pro Ser Asp Leu Val Glu Met
            260                 265                 270
Met Asp His Ile Ile Lys Asn Val Gln Gln Pro Lys Gln Gln Tyr Arg
            275                 280                 285
Pro Trp Ser Lys Val Val Asp Val Ala Pro Glu Phe Gln Asn Leu Met
    290                 295                 300
Asp His Ile Leu Lys Ile Asp Glu Met Ile His Ala Asn Asp Asn Gln
305                 310                 315                 320
Ile Lys Tyr Glu Ala Asp Ile Arg Lys Pro Leu Tyr Ser Lys Arg Ile
            325                 330                 335
Tyr Gln Asn Leu Thr Phe Asp Ser Ile Val Phe Arg Asn Ala Leu Gln
            340                 345                 350
Tyr Thr Val Ile Met Ala Val Ala Ile Phe Ile Ala Leu Ala Phe Asn
            355                 360                 365
Ile Gln Lys Ala Tyr Trp Val Pro Leu Ser Ala His Thr Ile Met Leu
    370                 375                 380
Gly Asn Val Thr Thr Ile Arg Thr Leu Asp Arg Ser Leu Ala Arg Gly
385                 390                 395                 400
Ile Gly Thr Ile Ile Gly Thr Ile Val Leu Ser Gly Ile Leu Ala Phe
                405                 410                 415
```

His Ile Asp Pro Ile Phe Ala Ile Ile Met Gly Phe Ser Ala Met
         420   425   430

Met Thr Glu Ala Phe Val Ala Ser Asn Tyr Ala Phe Ala Val Ile Phe
         435   440   445

Ile Thr Thr Gln Val Ile Met Leu Asn Gly Leu Ala Ser Gln Asn Leu
         450   455   460

Asn Ile Glu Ile Ala Tyr Thr Arg Ile Ile Asp Val Leu Ile Gly Ile
465   470   475   480

Ala Ile Ala Val Ile Gly Ile Phe Ile Leu Ala Arg Lys Thr Ala Ser
         485   490   495

Ser Met Leu Ser Asp Ala Ile Ala Glu Leu Val Arg Lys Glu Gly Ile
         500   505   510

Leu Phe His Tyr Leu Phe Ser Lys Asn Lys Gln Glu Thr Asn Glu Arg
         515   520   525

Asp Arg Val Glu Ser Leu Asn Leu Asn Val Lys Ile Ser Asn Val Thr
         530   535   540

Gln Ile Tyr Asn Ser Ala Asn Gly Glu Leu Phe Ser Asn Lys Glu Ala
545   550   555   560

Val Arg Tyr Tyr Tyr Pro Ser Ile Phe Ala Leu Glu Glu Ile Ser Phe
         565   570   575

Met Leu Glu Arg Ala Met Asn Asn Lys His Arg Gln Thr Ile Asn Asp
         580   585   590

Asp Leu Met Gly Glu Tyr Leu Val Val Phe Glu Asn Ile Ala Lys His
         595   600   605

Phe Gln Phe Gln Ala Asp Leu Asn Ile Arg Asp Met Gln Pro Leu Pro
         610   615   620

Gln Tyr Asn Tyr Ile Arg Ala Ser Leu Met Asn Ile Gln Arg Asn Cys
625   630   635   640

Ala Glu Gln Arg Gln Ala Ile Thr Lys Asp
         645   650

<210> 4904
<211> 203
<212> PRT
<213> S.epidermidis

<400> 4904
Met Lys Gln Trp Met Asn Arg Leu Ile Thr Leu Ile Gly Val Leu Leu
1   5   10   15

Ile Ile Leu Ala Ile Tyr Leu Phe Ser Lys Pro Tyr Ile Asp Asn Tyr
         20   25   30

Leu His Glu Lys Asp Asn Asp His Lys Ile Glu Asn Tyr Asp Lys Lys
         35   40   45

Glu Lys Glu Gln Thr Lys Thr Ser Lys Ser Thr Pro Lys Ile Pro Ser
         50   55   60

Asp Lys Ser Lys Met Ala Gly Tyr Ile Glu Val Pro Asp Ala Gln Ile
65   70   75   80

Lys Glu Pro Val Tyr Pro Gly Pro Ala Thr Pro Glu Gln Leu Asn Arg
         85   90   95

Gly Val Ser Phe Ala Glu Gly Asp Glu Ser Leu Asn Gln Gln Asn Ile
         100   105   110

Ser Ile Ala Gly His Thr Phe Thr Asp Arg Ser His Tyr Gln Phe Thr
         115   120   125

Asn Leu Lys Ser Ala Lys Ile Gly Ser Lys Val Tyr Phe Lys Thr Gly
         130   135   140

Asn Gln Thr Arg Lys Tyr Lys Ile Thr Lys Ile Arg Asp Val Lys Pro

```
145                  150                    155                      160
Thr Glu Val Lys Val Leu Asp Glu His Pro Asn Lys Lys Asn Gln Leu
                165                    170                    175
Thr Leu Ile Thr Cys Asp Asp Tyr Asn Glu Glu Thr Gly Val Trp Glu
                180                    185                    190
Thr Arg Lys Ile Phe Ile Ala Thr Gln Ile Asn
            195                    200


<210> 4905
<211> 46
<212> PRT
<213> S.epidermidis


<400> 4905
Lys Leu Cys Arg Thr Ser Tyr Pro Phe Phe Tyr Asn Lys Phe Leu Leu
1               5                   10                  15
Ile Thr Glu Lys Ser Tyr Tyr Lys Phe Lys Tyr Thr Leu Phe Leu Lys
                20                  25                  30
Phe Ser Ile Asn Leu Met Phe Lys Asn Leu Thr Lys Ala Arg
            35                  40                  45


<210> 4906
<211> 42
<212> PRT
<213> S.epidermidis


<400> 4906
Lys Cys Ser Arg Val Ala Ile Met Thr Phe Asn Ile Asn Phe Tyr Lys
1               5                   10                  15
Met Arg Ile Lys Ser Leu Asn Lys Glu Arg Asp Ser Ile Asp Gly Lys
                20                  25                  30
Ser Lys Ile Thr Asn Ile Lys Ile Tyr Trp
            35                  40


<210> 4907
<211> 57
<212> PRT
<213> S.epidermidis


<400> 4907
Lys Pro Met Leu Tyr Val Pro Phe Leu Ile Asn Thr His Glu Asn His
1               5                   10                  15
Tyr Lys Ala Phe Tyr Glu Lys Lys Lys Ser Asn Phe Leu Asn Lys Asn
                20                  25                  30
Tyr Phe Leu Asn Ile Asp Lys Phe Asp Cys Lys Ile Gln Thr Phe Leu
            35                  40                  45
Lys Lys Leu Thr Leu Phe His Gln Leu
      50                  55


<210> 4908
<211> 232
<212> PRT
<213> S.epidermidis


<400> 4908
Gly Val Ile Phe Met Thr Gly Asn Gln Met Phe Cys Arg Glu Asn Glu
```

```
1                   5                   10                  15
Leu Asp Glu Ser Phe Lys Gln Leu Ala Ser Tyr Ile Asn Ile Pro Val
                20                  25                  30
Gly Val Leu Leu Pro Phe Lys Ser Gln Cys Phe Val Arg His Tyr Asn
            35                  40                  45
Lys Gly Gln Ile Val Tyr Tyr Ser Ser Asp Glu Thr Thr His Ile Tyr
        50                  55                  60
Leu Leu Leu Lys Gly Asn Ile Met Arg Glu Asn Phe Asn Leu Asn Gly
65                  70                  75                  80
Asp Val Tyr Arg Tyr Leu Asn Arg Glu Lys Val Leu Phe Pro Leu Asn
                85                  90                  95
Asn Leu Phe Gln Asp Lys Val Pro Asn Glu Met Cys Thr Ala Leu Thr
            100                 105                 110
Asp Cys Glu Met Ile Gly Ile Pro Arg Asp Leu Ile Glu Tyr Leu Cys
            115                 120                 125
Lys Asn His Glu Glu Ile Phe Val Lys Leu Phe Ser Leu Leu Ser Glu
        130                 135                 140
Thr Gln Cys Gln His Ile Glu Tyr Asn Met Ala Leu Thr Ser Lys Leu
145                 150                 155                 160
Ala Lys Glu Arg Val Thr Lys Ile Leu Arg Tyr Leu Cys Gln Thr Val
                165                 170                 175
Gly Tyr Asp His Asp Glu Phe Tyr Glu Ile Lys His Phe Met Thr Ile
            180                 185                 190
Gln Leu Leu Ser Asp Met Ala Gly Ile Ser Arg Glu Thr Thr Ser His
            195                 200                 205
Ile Ile Asn Glu Leu Lys Glu Glu Lys Ile Leu Phe Lys Asn Ser Lys
        210                 215                 220
Asn Trp Leu Val Ser Lys Asp Leu
225                 230
```

<210> 4909
<211> 191
<212> PRT
<213> S.epidermidis

<400> 4909

```
Arg Ser Ser Arg Lys Ser Ile Gln Arg Ser Arg Phe Pro Gln Pro Val
1                   5                   10                  15
Ala Glu Lys Ser Ala Ile Ala His Ala Lys Lys His Arg Glu Glu Tyr
                20                  25                  30
Glu Lys Leu Gly Glu Gln Phe Phe Lys Asp Asn Phe Ser Leu Asn Val
            35                  40                  45
Lys Ala Thr Asn Val Val Gly Ser Gly Asp Gly Val Glu Val Tyr Val
        50                  55                  60
His Cys Asp Asp His Asp Ile Val Phe Asn Ala Ser Ile Pro Phe Asp
65                  70                  75                  80
Lys Glu Ala Ile His Glu Glu Gly Ser Met Arg Ser Asn Asp Asn Gly
                85                  90                  95
Asp Thr Met Ser Asn Met Val Gly Thr Val Leu Ser Gly Phe Glu Tyr
            100                 105                 110
Lys Ala Gln Lys Glu Lys Tyr Asp Asn Leu Thr Lys Phe Phe Lys Asn
            115                 120                 125
Asn Glu Glu Lys Tyr Gln Tyr Thr Gly Phe Thr Lys Glu Ala Ile His
        130                 135                 140
Lys Thr Gln Asn Val Gly Tyr Gln Asn Glu Tyr Tyr Tyr Leu Ala Gly
145                 150                 155                 160
```

```
Asn Val Thr Asn Ile Asn Asn Tyr Arg Lys Tyr Tyr Glu Pro Leu Ile
                165             170                 175
Lys Lys Asp Ser Lys Ser Phe Lys Glu Gly Met Lys Lys Ser Lys
            180             185                 190
```

<210> 4910
<211> 325
<212> PRT
<213> S.epidermidis

<400> 4910

```
Asn Cys Thr Arg Gln Glu Tyr Arg Gly Ser Leu Gly Ser Leu Asn Gln
1               5                 10                  15
Leu Met Ile Thr Ile Gly Ile Leu Ala Ala Tyr Leu Val Asn Tyr Ala
            20              25                  30
Phe Ala Asp Ile Glu Gly Trp Arg Trp Met Leu Gly Leu Ala Val Val
            35              40                  45
Pro Ser Val Ile Leu Leu Val Gly Ile Tyr Phe Met Pro Glu Ser Pro
        50              55                  60
Arg Trp Leu Leu Glu Asn Arg Asn Glu Glu Ala Ala Arg Gln Val Met
65                  70                  75                  80
Lys Ile Thr Tyr Asp Asp Ser Glu Ile Asp Lys Glu Leu Lys Glu Met
                85              90                  95
Lys Glu Ile Asn Ala Ile Ser Glu Ser Thr Trp Thr Val Ile Lys Ser
            100             105                 110
Pro Trp Leu Gly Arg Ile Leu Ile Val Gly Cys Ile Phe Ala Ile Phe
            115             120                 125
Gln Gln Phe Ile Gly Ile Asn Ala Val Ile Phe Tyr Ser Ser Ser Ile
            130             135                 140
Phe Ala Lys Ala Gly Leu Gly Glu Ala Ala Ser Ile Leu Gly Ser Val
145             150                 155                 160
Gly Ile Gly Thr Ile Asn Val Leu Val Thr Ile Val Ala Ile Phe Val
                165             170                 175
Val Asp Lys Ile Asp Arg Lys Lys Leu Leu Val Gly Gly Asn Ile Gly
            180             185                 190
Met Ile Ala Ser Leu Leu Ile Met Ala Ile Leu Ile Trp Thr Ile Gly
            195             200                 205
Ile Ala Ser Ser Ala Trp Ile Ile Ile Val Cys Leu Ser Leu Phe Ile
    210             215                 220
Val Phe Phe Gly Ile Ser Trp Gly Pro Val Leu Trp Val Met Leu Pro
225             230                 235                 240
Glu Leu Phe Pro Met Arg Ala Arg Gly Ala Ala Thr Gly Ile Ser Ala
                245             250                 255
Leu Val Leu Asn Ile Gly Thr Leu Ile Val Ser Leu Phe Phe Pro Ile
                260             265                 270
Leu Ser Asp Ala Leu Ser Thr Glu Trp Val Phe Leu Ile Phe Ala Phe
            275             280                 285
Ile Gly Val Leu Ala Met Ile Phe Val Ile Lys Phe Leu Pro Glu Thr
    290             295                 300
Arg Gly Arg Ser Leu Glu Glu Ile Glu Tyr Glu Leu Arg Glu Arg Thr
305             310                 315                 320
Gly Ala Arg Thr Glu
                325
```

<210> 4911
<211> 693

<212> PRT
<213> S.epidermidis

<400> 4911
```
Ile Glu Val Leu Ile Val Lys Thr Arg Gln Asn Lys Tyr Ser Ile Arg
1               5                   10                  15
Lys Phe Ser Val Gly Ala Ser Ser Ile Leu Ile Ala Ala Leu Leu Phe
            20                  25                  30
Met Gly Gly Gly Ser Ala Gln Ala Ala Glu Gln Gln Gln Asp Lys Gly
        35                  40                  45
Thr Val Glu Asn Ser Thr Thr Gln Ser Ile Gly Asp Glu Asn Glu Lys
        50                  55                  60
Leu Ser Glu Gln Gln Ser Thr Gln Asn Lys Asn Val Asn Glu Lys Ser
65                  70                  75                  80
Asn Val Asp Ser Ile Thr Glu Asn Glu Ser Leu His Asn Glu Thr Pro
                85                  90                  95
Lys Asn Glu Asp Leu Ile Gln Gln Gln Lys Asp Ser Gln Asn Asp Asn
            100                 105                 110
Lys Ser Glu Ser Val Val Glu Gln Asn Lys Glu Asn Glu Ala Phe Val
            115                 120                 125
Lys Lys His Ser Glu Glu Lys Pro Gln Gln Glu Gln Val Glu Leu Glu
        130                 135                 140
Lys His Ala Ser Glu Asn Asn Gln Thr Leu His Ser Lys Ala Ala Gln
145                 150                 155                 160
Ser Asn Glu Asp Val Lys Thr Lys Pro Ser Gln Leu Asp Asn Thr Thr
                165                 170                 175
Ala Gln Gln Glu Asp Ser Gln Lys Glu Asn Leu Ser Lys Gln Asp Thr
            180                 185                 190
Gln Ser Ser Lys Thr Thr Asp Leu Leu Arg Ala Thr Gly Gln Asn Gln
        195                 200                 205
Ser Lys Asp Ser Gln Ser Thr Glu Glu Val Asn Lys Glu Val Lys Asn
        210                 215                 220
Asp Thr Gln Gln Val Thr Ala Lys Asn Asp Asp Asp Lys Val Glu Thr
225                 230                 235                 240
Phe Asn Leu Asn Ser Lys Glu Glu Pro Leu Lys Val Asp Lys Gln Ala
                245                 250                 255
Asn Pro Thr Thr Asp Lys Asp Lys Ser Ser Lys Asn Asp Lys Gly Ser
            260                 265                 270
His Asp Gly Leu Ala Asn Leu Glu Ser Asn Ala Val Ala Thr Thr Asn
        275                 280                 285
Lys Gln Ser Lys Gln Gln Val Ser Glu Lys Asn Glu Asp Gln Thr Asn
        290                 295                 300
Lys Ser Ala Lys Gln Lys Gln Tyr Lys Asn Asn Asp Pro Ile Ile Leu
305                 310                 315                 320
Val His Gly Phe Asn Gly Phe Thr Asp Asp Ile Asn Pro Ser Val Leu
            325                 330                 335
Thr His Tyr Trp Gly Gly Asp Lys Met Asn Ile Arg Gln Asp Leu Glu
            340                 345                 350
Glu Asn Gly Tyr Glu Ala Tyr Glu Ala Ser Ile Ser Ala Phe Gly Ser
        355                 360                 365
Asn Tyr Asp Arg Ala Val Glu Leu Tyr Tyr Tyr Ile Lys Gly Gly Arg
        370                 375                 380
Val Asp Tyr Gly Ala Ala His Ala Ala Lys Tyr Gly His Glu Arg Tyr
385                 390                 395                 400
Gly Lys Thr Tyr Glu Gly Val Tyr Lys Asp Trp Lys Pro Gly Gln Lys
                405                 410                 415
```

```
Ile His Leu Val Gly His Ser Met Gly Gly Gln Thr Ile Arg Gln Leu
            420                 425                 430
Glu Glu Leu Leu Arg His Gly Asn Pro Glu Glu Val Glu Tyr Gln Lys
            435                 440                 445
Gln His Gly Gly Glu Ile Ser Pro Leu Phe Gln Gly Gly His Asp Asn
        450                 455                 460
Met Val Ser Ser Ile Thr Thr Leu Gly Thr Pro His Asn Gly Thr His
465                 470                 475                 480
Ala Ser Asp Leu Leu Gly Asn Glu Ala Ile Val Arg Gln Leu Ala Tyr
            485                 490                 495
Asp Val Gly Lys Met Tyr Gly Asn Lys Asp Ser Arg Val Asp Phe Gly
            500                 505                 510
Leu Glu His Trp Gly Leu Lys Gln Lys Pro Asn Glu Ser Tyr Ile Gln
            515                 520                 525
Tyr Val Lys Arg Val Gln Asn Ser Lys Leu Trp Lys Ser Lys Asp Ser
            530                 535                 540
Gly Leu His Asp Leu Thr Arg Asp Gly Ala Thr Asp Leu Asn Arg Lys
545                 550                 555                 560
Thr Ser Leu Asn Pro Asn Ile Val Tyr Lys Thr Tyr Thr Gly Glu Ser
                565                 570                 575
Thr His Lys Thr Leu Ala Gly Lys Gln Lys Ala Asp Leu Asn Met Phe
            580                 585                 590
Leu Pro Phe Thr Ile Thr Gly Asn Leu Ile Gly Lys Ala Lys Glu Lys
            595                 600                 605
Glu Trp Arg Glu Asn Asp Gly Leu Val Ser Val Ile Ser Ser Gln His
            610                 615                 620
Pro Phe Asn Gln Lys Tyr Val Glu Ala Thr Asp Lys Asn Gln Lys Gly
625                 630                 635                 640
Val Trp Gln Val Thr Pro Thr Lys His Asp Trp Asp His Val Asp Phe
                645                 650                 655
Val Gly Gln Asp Ser Thr Asp Thr Lys Arg Thr Arg Asp Glu Leu Gln
                660                 665                 670
Gln Phe Trp His Gly Leu Ala Asp Asp Leu Val Gln Ser Glu Gln Leu
            675                 680                 685
Thr Ser Thr Asn Lys
            690
```

<210> 4912
<211> 55
<212> PRT
<213> S.epidermidis

<400> 4912
```
Gly Arg Gln Arg Ser Ser Asn Ala Ser Ser Ala Ile Val Phe Ile Ile
1               5                   10                  15
Gly Gly Thr Tyr Ser Leu Leu His Gln Pro Asn Leu Ala Leu Phe Asn
            20                  25                  30
Tyr Trp Ala Val Leu Ile Ile Ala Phe Asn Gln Trp Gly Gly Ser Met
            35                  40                  45
Phe Ser Gly Thr Cys Phe Ile
        50                  55
```

<210> 4913
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4913
Met His Lys Arg Ile Val Ser Phe Leu Thr Thr Ser Tyr Phe Leu Leu
1   5   10   15
Cys His Thr Ile Tyr Leu Gln Val Cys His Asn Lys Lys Arg Ile Thr
            20   25   30
Thr Phe Leu Arg Lys Gly Phe His
        35   40

<210> 4914
<211> 156
<212> PRT
<213> S.epidermidis

<400> 4914
Asn Gly Lys Arg Cys Arg Glu Lys Ile Ile Asn Gln Asn Arg Asp Ile
1   5   10   15
Val Ala Thr Glu Lys Ser Leu Pro Pro Trp Lys Arg Phe Leu Ser His
            20   25   30
Phe Ser Phe Tyr Ala Ile Ala Leu Gln Tyr Phe Val Val Gln Phe Val
            35   40   45
Ile Ala Leu Phe Leu Ile Trp Leu Pro Thr Tyr Leu Thr Glu Gln Tyr
        50   55   60
His Val Asn Phe Lys Glu Met Thr Ile Ser Ala Leu Pro Trp Leu Phe
65   70   75   80
Met Phe Phe Leu Ile Leu Phe Gly Trp Ser Tyr Phe Arg Gln Asp Phe
                85   90   95
Glu Tyr Arg Ser Ile Thr Phe Cys Cys Thr Trp Arg Asn Cys Asp Cys
            100   105   110
Gly Ile Cys Gly Ile Leu Asn Phe Asn Phe Leu Ser Ser Thr Tyr Arg
            115   120   125
Gln Leu Ile Cys Asn His Phe Leu Val Ile Thr Leu Phe Arg Trp Arg
        130   135   140
Thr Tyr Phe Tyr Gly Asn Glu Leu Gly Cys Ser His
145   150   155

<210> 4915
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4915
Val Asn Lys Arg Asp Asp Ile Arg Ile Pro Phe Ser Ser Glu Asn Asp
1   5   10   15
Val Lys Asn Lys Leu Phe Asn Ile Val Tyr Ala Tyr Asn Ala Val Lys
            20   25   30
Lys Asn Phe Lys Gln Ala Glu Asp Ser Arg Asn Pro Arg Gly Gln Asn
            35   40   45
Leu

<210> 4916
<211> 208
<212> PRT
<213> S.epidermidis

<400> 4916

```
Gly Lys Trp Arg Phe Phe Ile Val Glu Ile Gly Gly Ile Phe Ile Phe
1               5                   10                  15
Ile Ala Ile Thr Tyr His Lys Gln Leu Thr Lys Asp Asp Leu Gln His
                20                  25                  30
Tyr Lys His Ile Glu Glu Ala Ile Asp Gly Leu Leu Phe Arg Thr Ser
        35                  40                  45
Met Asn Asn Glu Glu Asn Lys Glu Met Ile Gln Ser Leu Leu Gln Leu
        50                  55                  60
Gly Phe Ser Lys Asp Lys Ile Ile Ile His Ser Asp Val Thr Leu Leu
65                  70                  75                  80
Glu Asp Leu His Leu Lys Arg Ile His Phe Lys Glu Asn Asp Thr Thr
                85                  90                  95
Ala Phe Thr Tyr Lys Glu Ala His Pro Asp Ile Cys Val Ser Met Ser
                100                 105                 110
Thr His Asp Val Glu Thr Val Lys Arg Cys Tyr Glu Asn Gly Leu Asp
        115                 120                 125
Ser Val Phe Phe Gly His Ile Phe Pro Thr Ser Ser His Pro Asn Val
        130                 135                 140
Pro Pro Arg Ser Lys Glu Ala Ile Gln Gln Ala Leu Asn Val Pro Ile
145                 150                 155                 160
Pro Ile Tyr Ala Ile Gly Gly Ile Asn Glu His Ser Leu Gln Lys Met
                165                 170                 175
Pro Pro Gly Phe Lys Gly Ile Cys Ala Ile Ser Tyr Phe Asn Asn Ala
                180                 185                 190
Ser Leu Glu Glu Ile Lys Gln Leu Arg Lys Glu Trp Ser Thr His Ala
        195                 200                 205
```

<210> 4917
<211> 198
<212> PRT
<213> S.epidermidis

<400> 4917

```
Tyr Ile Phe Arg Lys Leu Asn Lys Gly Glu Ile Leu Glu Leu Lys Asp
1               5                   10                  15
Lys Ile Ile Asp Asn Ala Ile Thr Leu Phe Ser Glu Lys Gly Tyr Asp
                20                  25                  30
Gly Thr Thr Leu Asp Asp Ile Ser Lys Ser Val Asn Ile Lys Lys Ala
        35                  40                  45
Ser Leu Tyr Tyr His Tyr Asp Asn Lys Glu Glu Ile Tyr Arg Lys Ser
        50                  55                  60
Val Glu Asn Cys Phe Asn Tyr Phe Ile Asp Phe Leu Leu Arg Asn His
65                  70                  75                  80
Asp Asp Asn Tyr Ser Ile Asp Gly Leu Tyr Gln Phe Leu Phe Lys Phe
                85                  90                  95
Ile Phe Asp Val Asp Glu Arg Tyr Ile Lys Leu Tyr Val Gln Leu Ser
                100                 105                 110
Ser Ala Pro Glu Ala Leu Asn Ser Glu Ile Lys His His Leu Gln Glu
        115                 120                 125
Ile Asn Thr Thr Leu His Asp Glu Leu Ile Lys Tyr Tyr Asp Pro Thr
        130                 135                 140
His Ile Ala Leu Asp Lys Glu Asp Phe Ile Asn Leu Ile Leu Leu Phe
145                 150                 155                 160
Leu Glu Thr Trp Tyr Phe Arg Ala Ser Phe Ser Gln Lys Phe Gly Ile
                165                 170                 175
```

Ile Glu Asp Ser Lys Asn Arg Phe Lys Asp Gln Val Tyr Ser Leu Leu
            180   185   190
Asn Val Phe Leu Lys Lys
            195

<210> 4918
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4918
Thr Ile Phe Arg Gln Ser Glu Phe Ile Glu Asn Ser Ser Lys Pro His
1   5   10   15
Ile Lys Glu Cys Ala Gly Leu Phe Val Tyr Leu Glu Phe Leu Thr Trp
            20   25   30
Lys Leu Lys Gln Ile Leu Lys Leu
            35   40

<210> 4919
<211> 156
<212> PRT
<213> S.epidermidis

<400> 4919
Arg Glu Phe Arg Ile Lys Cys Phe Thr Glu Glu Ile Asn Met Asn Trp
1   5   10   15
Leu Lys Ile Phe Tyr His Leu Leu Cys Ala Thr Thr Ile Ser Val Ile
            20   25   30
Leu Leu Ile Ile Thr Ile Leu Met Asp Val Leu Leu Gln Asn Thr His
            35   40   45
Leu Thr Gln Leu Leu Leu Asn Ile Asp Phe Leu Ile Asn Pro Asp Glu
        50   55   60
Val Pro Thr Ile Ile Glu Val Leu Ile His Leu Ser Ile Gly Ile Leu
65   70   75   80
Ile Tyr Leu Ala Phe Leu Ile Ile Tyr His Tyr Ser Lys Ser Leu Tyr
                85   90   95
His Leu Ala Tyr Leu Pro Leu Val Leu Ile Phe Thr Leu Met Tyr Pro
            100   105   110
Leu Leu Val Phe Leu Ala Gln Arg Pro Phe Phe Ser Phe Ser Trp Asn
            115   120   125
Glu Phe Ala Trp Trp Leu Val Ala His Leu Phe Phe Ile Ile Leu Met
            130   135   140
Ala Thr Cys Leu Pro Ile Ile Ser Lys Lys Ile Leu
145   150   155

<210> 4920
<211> 124
<212> PRT
<213> S.epidermidis

<400> 4920
Thr Ile Leu Arg Glu Arg Leu Ser Ile Ser Leu Cys Leu Ser Ala Arg
1   5   10   15
Leu Ser Asn Leu Ile Arg Ser Arg Pro Ser Ile Ile Lys Asn Glu Ile
            20   25   30
Ile Ile Ser Val Asn Ile Thr Ile Lys Gly Thr Leu Ala Ser Asn Asp

```
           35                    40                    45
Ala Val Phe Asn Thr Ser Asn Ala Arg Ser Pro Pro Thr Ser Ile Lys
    50                    55                    60
Glu Asn Gly Ser Lys His Asn Ala Asn Ala Gln Asn Lys Arg Leu Ala
65                    70                    75                    80
Arg Asn Gly Ser Pro Ile Thr Phe Phe Cys Asp Ala Ala Ala Lys Ile
                85                    90                    95
Tyr Glu Pro Glu Ser Asn Val Val Ala Lys Asn Lys Lys Ala Asp Ile
                100                   105                   110
Lys Asn Lys Ile Ile Val Ile Val Glu Asn Gly Ser
                115                   120
```

<210> 4921
<211> 518
<212> PRT
<213> S.epidermidis

<400> 4921
```
Gly Val Ile Arg Met Val Val Pro Phe Lys Asn Glu Pro Gly Ile Asp
1               5                     10                    15
Phe Ser Val Gln Thr Asn Val Glu Arg Phe Asn Glu Glu Leu Arg Lys
                20                    25                    30
Val Lys Ala Gln Leu Gly Gln Asp Ile Pro Leu Val Ile Asn Gly Glu
                35                    40                    45
Lys Leu Thr Lys Thr Asp Thr Phe Asn Ser Val Asn Pro Ala Asn Thr
                50                    55                    60
Ser Gln Leu Ile Ala Lys Val Ser Lys Ala Thr Gln Asp Asp Ile Glu
65                    70                    75                    80
Lys Ala Phe Glu Ser Ala Asn His Ala Tyr Gln Ser Trp Lys Lys Trp
                85                    90                    95
Ser His Lys Asp Arg Ala Glu Leu Leu Leu Arg Val Ala Ala Ile Ile
                100                   105                   110
Arg Arg Arg Lys Glu Glu Ile Ser Ala Ile Met Val Tyr Glu Ala Gly
                115                   120                   125
Lys Pro Trp Asp Glu Ala Val Gly Asp Ala Ala Glu Gly Ile Asp Phe
                130                   135                   140
Ile Glu Tyr Tyr Ala Arg Ser Met Met Glu Leu Ala Asp Gly Lys Pro
145                   150                   155                   160
Val Leu Asp Arg Glu Gly Glu His Asn Arg Tyr Phe Tyr Lys Pro Ile
                165                   170                   175
Gly Thr Gly Val Thr Ile Pro Pro Trp Asn Phe Pro Phe Ala Ile Met
                180                   185                   190
Ala Gly Thr Thr Leu Ala Pro Val Val Ala Gly Asn Thr Val Leu Leu
                195                   200                   205
Lys Pro Ala Glu Asp Thr Val Leu Thr Ala Tyr Lys Leu Met Glu Ile
                210                   215                   220
Leu Glu Glu Ala Gly Leu Pro Gln Gly Val Val Asn Phe Val Pro Gly
225                   230                   235                   240
Asp Pro Lys Glu Ile Gly Asp Tyr Leu Val Asp His Lys Asp Thr His
                245                   250                   255
Phe Val Thr Phe Thr Gly Ser Arg Ala Thr Gly Thr Arg Ile Tyr Glu
                260                   265                   270
Arg Ser Ala Val Val Gln Glu Gly Gln Gln Phe Leu Lys Arg Val Ile
                275                   280                   285
Ala Glu Met Gly Gly Lys Asp Ala Ile Val Val Asp Asn Asn Val Asp
    290                   295                   300
```

```
Thr Asp Leu Ala Ala Glu Ala Ile Val Thr Ser Ala Phe Gly Phe Ser
305                 310                 315                 320
Gly Gln Lys Cys Ser Ala Cys Ser Arg Ala Ile Val His Gln Asp Val
                325                 330                 335
His Asp Glu Ile Leu Glu Lys Ala Ile Gln Leu Thr Gln Lys Leu Thr
                340                 345                 350
Leu Gly Asn Thr Glu Glu Asn Thr Phe Met Gly Pro Val Ile Asn Gln
                355                 360                 365
Lys Gln Phe Asp Lys Ile Lys Asn Tyr Ile Glu Ile Gly Lys Lys Glu
    370                 375                 380
Gly Lys Leu Glu Thr Gly Gly Gly Thr Asp Asp Ser Thr Gly Tyr Phe
385                 390                 395                 400
Ile Glu Pro Thr Ile Phe Ser Gly Leu Gln Ser Ala Asp Arg Ile Met
                405                 410                 415
Gln Glu Glu Ile Phe Gly Pro Val Val Gly Phe Ile Lys Val Lys Asp
                420                 425                 430
Phe Asp Glu Ala Ile Glu Val Ala Asn Asp Thr Asp Tyr Gly Leu Thr
                435                 440                 445
Gly Ala Val Ile Thr Asn His Arg Glu His Trp Ile Lys Ala Val Asn
    450                 455                 460
Glu Phe Asp Val Gly Asn Leu Tyr Leu Asn Arg Gly Cys Thr Ala Ala
465                 470                 475                 480
Val Val Gly Tyr His Pro Phe Gly Gly Phe Lys Met Ser Gly Thr Asp
                485                 490                 495
Ala Lys Thr Gly Ser Pro Asp Tyr Leu Leu Asn Phe Leu Glu Gln Lys
                500                 505                 510
Val Val Ser Glu Met Phe
                515
```

<210> 4922
<211> 956
<212> PRT
<213> S.epidermidis

<400> 4922

```
Arg Arg Ile Arg Leu Ser Asn Leu Ile Gln Asp Ile Lys Gln Ser Leu
1               5                   10                  15
Tyr Lys Gly Phe Ile Asp Lys Asp Ser Ser His Lys Gly Asn Phe Val
            20                  25                  30
Pro Arg Leu Leu Val Asn Asn Lys Glu Glu Asn Val Leu Ser Thr Ile
        35                  40                  45
Ile Asp Gln Leu His Asn Cys Gln Ser Phe Cys Ile Ser Val Ala Phe
    50                  55                  60
Ile Thr Glu Ser Gly Leu Ala Ser Leu Lys Ser His Phe Tyr Asp Leu
65                  70                  75                  80
Ser Lys Lys Gly Val Lys Gly Arg Ile Ile Thr Ser Asn Tyr Leu Gly
            85                  90                  95
Phe Asn Ser Pro Lys Met Phe Glu Glu Leu Leu Lys Leu Glu Asn Val
            100                 105                 110
Glu Val Lys Leu Thr Asn Ile Glu Gly Phe His Ala Lys Gly Tyr Ile
    115                 120                 125
Phe Glu His His Asn His Thr Ser Phe Ile Ile Gly Ser Ser Asn Leu
    130                 135                 140
Thr Ser Asn Ala Leu Lys Leu Asn Tyr Glu His Asn Leu Phe Leu Ser
145                 150                 155                 160
Thr His Lys Asn Gly Asp Leu Val Asn Asn Ile Lys His Lys Phe Asp
```

```
                     165                      170                      175
Glu Leu Trp Asp Ser Ser Phe Ser Leu Thr Asn Glu Trp Ile Asn Glu
                 180                      185                      190
Tyr Lys Gln Ser Phe Glu Tyr Gln Thr Leu Gln Lys Val Phe Asp Asn
             195                      200                      205
Thr Val Val Gln Asn Ser Glu Ile Lys Lys Phe Asn Glu Ser Lys Leu
         210                      215                      220
Ile Lys Pro Asn Leu Met Gln Glu His Ala Leu Lys Ser Leu Glu Ser
     225                      230                      235                      240
Leu Arg Asn Val Gly Gly Glu Lys Gly Leu Ile Ile Ser Ala Thr Gly
                 245                      250                      255
Thr Gly Lys Thr Ile Leu Cys Ala Leu Asp Val Arg Ala Tyr Ser Pro
                 260                      265                      270
Asp Lys Phe Leu Phe Ile Val His Asn Glu Gly Ile Leu Asn Arg Ala
             275                      280                      ·285
Ile Glu Glu Phe Lys Lys Val Phe Pro Tyr Glu Asp Glu Ser Asp Phe
         290                      295                      300
Gly Leu Leu Thr Gly Lys Arg Lys Asp His Asp Ala Lys Phe Leu Phe
     305                      310                      315                      320
Ala Thr Ile Gln Thr Leu Ser Lys Lys Glu Asn Tyr Lys Phe Phe Asn
                 325                      330                      335
Ser Asn His Phe Asp Tyr Ile Val Phe Asp Glu Ala His Arg Thr Ala
                 340                      345                      350
Ala Ser Ser Tyr Gln Lys Ile Phe Asn Tyr Phe Lys Pro Asn Phe Leu
             355                      360                      365
Leu Gly Met Thr Ala Thr Pro Glu Arg Thr Asp Glu Leu Asn Ile Phe
         370                      375                      380
Glu Leu Phe Asn Tyr Asn Ile Ala Tyr Glu Ile Arg Leu Gln Glu Ala
     385                      390                      395                      400
Leu Glu Ser Asn Ile Leu Cys Pro Phe His Tyr Phe Gly Val Thr Asp
                 405                      410                      415
Tyr Ile Gln Asn Glu Met Ser Gln Glu Asp Ala Phe Asn Leu Lys Tyr
                 420                      425                      430
Leu Ala Ser Asn Glu Arg Val Glu His Ile Ile Lys Lys Thr Asn Tyr
             435                      440                      445
Tyr Gly Tyr Ser Gly Asp Val Val Lys Gly Leu Ile Phe Val Ser Ser
         450                      455                      460
Arg Gly Glu Ala Tyr Gln Leu Ala Asn Gln Leu Ser Lys Arg Gly Ile
     465                      470                      475                      480
Ser Ser Val Gly Leu Thr Gly Lys Asp Ser Ile Ala Tyr Arg Thr Glu
                 485                      490                      495
Thr Ile Gln Gln Leu Lys Glu Gly Ser Ile Asn Tyr Ile Ile Thr Val
                 500                      505                      510
Asp Leu Phe Asn Glu Gly Ile Asp Ile Pro Glu Ile Asn Gln Val Val
             515                      520                      525
Met Leu Arg Pro Thr Lys Ser Ser Ile Ile Phe Ile Gln Gln Leu Gly
         530                      535                      540
Arg Gly Leu Arg Lys Ser Thr Asn Lys Glu Phe Val Thr Val Ile Asp
     545                      550                      555                      560
Phe Ile Gly Asn Tyr Lys Thr Asn Tyr Met Ile Pro Ile Ala Leu Ser
                 565                      570                      575
Gly Asn Lys Ser Gln Asn Lys Asp Asn Tyr Arg Lys Phe Leu Thr Asp
                 580                      585                      590
Thr Thr Val Leu Asn Gly Val Ser Thr Ile Asn Phe Glu Glu Val Ala
             595                      600                      605
Lys Asn Lys Ile Tyr Asn Ser Leu Asp Ser Val Lys Leu Asn Gln Pro
```

```
              610                    615                    620
Lys Leu Ile Lys Glu Ala Phe Asn Asn Val Lys Asp Arg Ile Gly Lys
625                    630                    635                    640
Leu Pro Leu Leu Met Asp Phe Ile Asn Asn Asp Ser Ile Asp Pro Ser
                 645                    650                    655
Val Ile Phe Ser Arg Phe Lys Asn Tyr Tyr Glu Phe Leu Ile Lys Asn
                 660                    665                    670
Lys Ile Ile Glu Asn Glu Leu Ser Ile Asn Glu Phe Lys Asn Leu Thr
                 675                    680                    685
Phe Leu Ser Arg Gln Leu Ser Pro Gly Leu Lys Lys Val Asp Ile Asp
                 690                    695                    700
Val Leu Lys Glu Val Ile Gln Asn Asp Val Thr Tyr Glu Asn Leu Thr
705                    710                    715                    720
Lys Lys Met Leu Asn Ile Asn Asn Asp Ile Ser Glu Tyr Asp Ile Asn
                 725                    730                    735
Thr Ser Leu Ser Ile Leu Asp Phe Thr Phe Phe Lys Lys Thr Ile Gly
                 740                    745                    750
Lys Thr Tyr Gly Leu Pro Leu Ile Gln Tyr Lys Asp Asn Leu Ile Cys
                 755                    760                    765
Leu Ala Asn Glu Phe Lys Glu Ala Leu Asn Lys Pro Leu Phe Asn Thr
                 770                    775                    780
Phe Val His Asp Leu Ile Asp Leu Ala Asn Tyr Asn Asn Asp Arg Tyr
785                    790                    795                    800
Gln Asn Lys Lys Asn Ser Leu Ile Leu Tyr Asn Lys Tyr Ser Arg Glu
                 805                    810                    815
Asp Phe Val Lys Leu Leu Asn Trp Asp Lys Asp Glu Ser Gly Thr Ile
                 820                    825                    830
Asn Gly Tyr Arg Met Lys His Arg Thr Leu Pro Leu Phe Ile Thr Tyr
                 835                    840                    845
Asp Lys His Glu Asn Ile Ser Asp Asn Thr Lys Tyr Asp Asp Glu Phe
                 850                    855                    860
Leu Ser Gln Asp Glu Leu Lys Trp Tyr Thr Arg Ser Asn Arg Lys Leu
865                    870                    875                    880
Thr Ser Pro Glu Val Gln Asn Ile Leu Lys His Glu Glu Asn Asn Thr
                 885                    890                    895
Asp Met Tyr Ile Phe Val Lys Lys Arg Asp Asp Glu Gly Lys Tyr Phe
                 900                    905                    910
Tyr Tyr Leu Gly Lys Ala Lys Tyr Ile Lys Gly Thr Glu Lys Gln Asp
                 915                    920                    925
Tyr Met Pro Asn Gly Asn Ser Val Val Thr Met His Leu Ser Met Asn
                 930                    935                    940
Thr Ser Ile Arg Asp Asp Ile Tyr Arg Tyr Ile Thr
945                    950                    955
```

<210> 4923
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4923
```
Asn Ile Val Ser Tyr Met Leu Ser Leu Arg Tyr Leu Gln Thr Ser Phe
1                5                    10                   15
Asn Glu Ile Thr Leu Cys Lys His Tyr Lys Met Ile Thr Pro His Thr
                 20                   25                   30
Asn Val His Phe Ser Asp Lys Val Met Leu Val Val Lys Lys Glu Arg
                 35                   40                   45
```

Asn Gln Gly
    50

<210> 4924
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4924
Thr Thr Pro Ser Ala Pro Leu Leu Arg Ser Asn Lys Asp Lys Ala Ile
1   5   10   15
Asp Ile Ile Asn Val His Leu Leu Gly Met Leu Thr Ile Lys Met Asp
            20   25   30
Lys Ile Ile Asn His Ser Ile Asn Leu Arg
        35   40

<210> 4925
<211> 69
<212> PRT
<213> S.epidermidis

<400> 4925
Pro Phe Tyr Ser Cys Phe Lys Val Lys Phe Phe Lys Lys Tyr Glu Ile
1   5   10   15
Asp Leu Lys Lys Asp Ile Leu Phe Met Lys Ser Lys Leu Asn Glu Arg
            20   25   30
Leu Glu Met Lys Asn Arg Asp Cys Gly Ser Met Lys Val Tyr Lys Lys
        35   40   45
Ser Arg Thr Glu Phe Asn Leu Asn Ser Leu Phe Tyr Ser Leu Ile Leu
    50   55   60
Tyr Arg Asn Ile Cys
65

<210> 4926
<211> 287
<212> PRT
<213> S.epidermidis

<400> 4926
Lys Ser Asn Arg Lys Thr Leu Lys Leu Leu Tyr Gly Tyr Ile Lys Met
1   5   10   15
Lys Ile Asn Val Leu Cys Glu Lys Arg Asp Asn Met Asp Ile Lys Gln
            20   25   30
Ser Ser Glu Lys Gln Gly Arg Pro His His Leu Ser Asp Ser Arg Thr
        35   40   45
Val Leu Lys Arg Asn Phe Ile Leu Ile Pro Thr Tyr Ile Leu Leu Gln
    50   55   60
Ser Ile Ile Pro Ile Ile Val Val Phe Gly Ser Leu Gly Ile Thr Ala
65   70   75   80
Met Ile Thr Gln Gln Ala Pro Pro Gln Trp Leu Tyr His Cys Ser Leu
                85   90   95
Ser Leu Ser Phe Val Ile Ala Gln Gly Leu Ile Leu Ile Ile Phe Tyr
            100   105   110
Lys Ile His Gln Ser Val Ile Asn Asp Val Met Lys Gln Gln Trp Ile
        115   120   125
Ile Ala Lys Asn Lys Ile Ile Lys Ile Val Ile Val Ala Ile Val Val

```
          130                        135                      140
Tyr Leu Leu Leu Leu Ile Ile Arg Val Ile Gly Thr Ser Leu Pro Asn
145                     150                      155                  160
His Leu Ser Tyr His Leu Thr Gln Ser Glu Gln Arg Thr Leu Gly Leu
                    165                      170                  175
Phe Lys Ser Pro Tyr Val Leu Leu Val Thr Phe Ile Ser Met Val Phe
                180                      185                  190
Leu Arg Pro Met Val Glu Gln Ile Ile Tyr Arg Tyr Leu Ile Ile His
            195                      200                  205
Glu Leu Gly Lys Val Trp Asn Arg Gln Phe Val Ile Gly Leu Ser Ile
        210                      215                  220
Val Ile Glu Thr Ile Val His Val Tyr Asp Met Ala Ser Ile Phe Glu
225                     230                      235                  240
Ile Phe Pro Tyr Ile Val Ile Ala Ser Ala Ala Thr Ile Leu Tyr Ile
                245                      250                  255
Lys Ser Arg Asp Asn Leu Ile Val Ala Tyr Ile Phe Gln Val Ile Leu
                260                      265                  270
Gln Cys Ile Leu Phe Ile Glu Ile Leu Cys Lys Tyr Thr Asn Phe
            275                      280                  285
```

<210> 4927
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4927
```
Lys Tyr Phe Arg Val Cys Val Asp Val Leu Asn Phe Glu Thr Lys Ser
1                   5                    10                   15
Lys Gly Glu Tyr Glu Asp Glu Val Phe Ser Ser Ile Val Glu Ser His
                20                      25                   30
His Lys Asp Asn Glu Leu Thr Thr Ile Ile Asn Tyr Lys Arg
            35                      40                   45
```

<210> 4928
<211> 285
<212> PRT
<213> S.epidermidis

<400> 4928
```
Leu Gln Leu Arg Val Lys Arg Arg Lys Ala Ser Asp Lys Val Lys Asp
1                   5                    10                   15
Asn Asn Glu Val Leu Lys Leu Phe Ile Val Ser Asp Ser Ile Gly Glu
                20                      25                   30
Thr Ala Gln Arg Met Ile His Ala Thr Leu Thr Gln Phe Pro Asp Leu
            35                      40                   45
Thr Gln Val Glu Ile Lys Lys Phe Pro Tyr Ile Lys Asp Glu Gln Glu
        50                      55                   60
Phe Leu Asn Val Leu Gln Leu Ala Lys Glu Gln Asn Ala Ile Val Ala
65                      70                      75                   80
Thr Thr Leu Val Ser Glu Ser Phe Asn Ala Leu Gly His Gln Phe Ala
                85                      90                   95
Asn Glu His Gln Ile Pro Tyr Val Asp Tyr Met Ser Glu Leu Ile Ser
            100                      105                  110
Ile Ile Lys Gln His Thr His Ala Lys Pro Leu Met Glu Ser Gly Ala
        115                      120                  125
Leu Arg Lys Leu Asn Asp Glu Tyr Phe Lys Arg Ile Glu Ala Ile Glu
```

```
            130                     135                     140
Tyr Ser Val Lys Tyr Asp Asp Gly Lys His Phe Thr Asp Ile Gly Glu
145                     150                     155                     160
Ala Asp Ala Leu Ile Val Gly Val Ser Arg Thr Ser Lys Thr Pro Leu
                165                     170                     175
Ser Met Tyr Leu Ala Asn Lys Gly Tyr Lys Ile Ala Asn Ile Pro Leu
                180                     185                     190
Val Pro Glu Val Ala Ile Pro Asp Asn Val Phe Gln Gln Lys Asn Leu
                195                     200                     205
Lys Val Phe Gly Leu Thr Ala Ser Pro Asn Tyr Ile Ala Asn Ile Arg
        210                     215                     220
Arg Asn Arg Ala Glu Thr Leu Gly Leu Ser Ser Glu Ser Asn Tyr Asn
225                     230                     235                     240
Ser Leu Glu Arg Ile Lys Lys Glu Leu Ser Tyr Ala Glu Glu Val Phe
                245                     250                     255
Arg Lys Leu Asn Ala Thr Val Ile Asn Thr Glu Tyr Lys Ser Ile Glu
                260                     265                     270
Glu Ser Ala Phe Tyr Ile Glu Lys Phe Leu Ala Lys Arg
                275                     280                     285
```

<210> 4929
<211> 42
<212> PRT
<213> S.epidermidis

<400> 4929
```
Arg Met Cys Arg Leu Ile Cys Ile Phe Gly Ile Phe Asn Leu Glu Val
1                   5                   10                      15
Lys Thr Asn Ser Lys Thr Ile Ala Met Ala Lys Asp Met Ile Lys Phe
                20                      25                  30
Ile Lys Lys Gly Val Leu Arg Met Ile Tyr
            35                      40
```

<210> 4930
<211> 50
<212> PRT
<213> S.epidermidis

<400> 4930
```
Thr Ser Leu Ser Lys Trp Gly Thr Ser Ser Ala Glu Tyr Ile Gly Ile
1                   5                   10                      15
Ala Ser Thr Ile Ala Thr Thr Ile Glu Pro Asn Gln Gln Ile Arg Arg
                20                      25                  30
Ala Leu Leu Pro Arg Asn Phe Ser Val Cys Cys Pro Gly Cys Ile Pro
            35                      40                  45
Ser Lys
    50
```

<210> 4931
<211> 219
<212> PRT
<213> S.epidermidis

<400> 4931
```
Val Tyr Leu Arg Ser Val Cys Met Glu Ile Leu Val Thr Ala Phe Glu
1                   5                       10                  15
```

```
Pro Phe Gly Asp Glu Lys Ile Asn Ser Ala Leu Glu Ala Val Ser His
            20                  25                  30
Leu Glu Thr Lys Ile Gly Cys His Lys Ile Asp Arg Leu Ile Leu Pro
            35                  40                  45
Thr Val Phe His Asp Ser Ala Asp Met Ile Ala Lys Val Leu Lys Ser
    50                  55                  60
Lys Asn Tyr Asp Val Ala Leu Ala Ile Gly Gln Ala Gly Gly Arg Ser
65                  70                  75                      80
Glu Ile Thr Pro Glu Arg Val Gly Ile Asn Ile Asp Asp Ala Arg Ile
            85                  90                  95
Lys Asp Asn Gln Gly His Gln Pro Ile Asp Gln Val Ile Arg His Asp
            100                 105                 110
Gly Ala Pro Ala Tyr Phe Ser Asn Leu Pro Ile Lys Arg Met Thr Met
            115                 120                 125
Ala Ile Gln Lys Ala Gly Leu Pro Ser Arg Leu Ser Asn Ser Ala Gly
    130                 135                 140
Thr Phe Val Cys Asn His Ile Leu Tyr Gln Leu Gly Tyr Met Ala Asp
145                 150                 155                 160
His Phe Tyr Pro Asp Leu Leu Phe Gly Phe Ile His Val Pro Leu Ile
            165                 170                 175
Pro Glu Gln Thr Ile Asn His Ser Gln Gln Ser Ser Met Ser Val Glu
            180                 185                 190
Asp Ile Val Lys Gly Leu Thr Glu Ala Ile Lys Ala Ile Asp Phe Val
            195                 200                 205
Glu Asp Asn Lys Ile Ala Leu Gly Glu Ile Gln
    210                 215
```

```
<210> 4932
<211> 460
<212> PRT
<213> S.epidermidis
```

```
<400> 4932
Lys Tyr Ile Ser Lys Gly Leu Cys Leu Leu Phe Asn Phe Ser His Tyr
1               5                   10                  15
Leu Phe Asn Asn Cys Ile Arg Gly Leu Phe Leu Gly His Gly Thr Arg
            20                  25                  30
His Ser Leu Tyr Arg Lys Gly Lys Thr Ile Met Leu Ser Ile Lys Asn
            35                  40                  45
Leu Thr Lys Ile Tyr Ser Gly Asn Lys Lys Ala Val Asp Asn Ile Ser
    50                  55                  60
Leu Asp Ile Gln Ser Gly Glu Phe Ile Ala Phe Ile Gly Thr Ser Gly
65                  70                  75                      80
Ser Gly Lys Thr Thr Ala Leu Arg Met Ile Asn Arg Met Ile Glu Ala
            85                  90                  95
Thr Asp Gly Gln Ile Met Met Asn Gly Lys Asp Val Arg Asn Met Asn
            100                 105                 110
Pro Val Glu Leu Arg Arg Ser Ile Gly Tyr Val Ile Gln Gln Ile Gly
            115                 120                 125
Leu Met Pro His Met Thr Ile Arg Glu Asn Ile Val Leu Val Pro Lys
    130                 135                 140
Leu Leu Lys Trp Ser Lys Glu Lys Lys Asp Glu Lys Ala Lys Glu Leu
145                 150                 155                 160
Ile Lys Leu Val Asp Leu Pro Glu Glu Tyr Leu Asp Arg Tyr Pro Ala
            165                 170                 175
Glu Leu Ser Gly Gly Gln Gln Gln Arg Ile Gly Val Val Arg Ala Leu
```

```
                 180                    185                    190
    Ala Ala Glu Gln Asp Ile Ile Leu Met Asp Glu Pro Phe Gly Ala Leu
             195                    200                    205
    Asp Pro Ile Thr Arg Asp Thr Leu Gln Asp Leu Val Lys Glu Leu Gln
         210                    215                    220
    Gln Lys Leu Gly Lys Thr Phe Ile Phe Val Thr His Asp Met Asp Glu
    225                    230                    235                    240
    Ala Ile Lys Leu Ala Asp Lys Ile Cys Ile Met Ser Lys Gly Lys Val
                 245                    250                    255
    Val Gln Tyr Asp Thr Pro Asp Asn Ile Leu Arg Tyr Pro Ala Asn Asp
                 260                    265                    270
    Phe Val Arg Asp Phe Ile Gly Gln Asn Arg Leu Ile Gln Asp Arg Pro
             275                    280                    285
    Asn Met Lys Ser Val Glu Ser Ala Met Ile Lys Pro Val Thr Val Lys
             290                    295                    300
    Ala Asp Asp Ser Leu Asn Asp Ala Val Asn Ile Met Arg Thr Arg Arg
    305                    310                    315                    320
    Val Asp Thr Ile Phe Val Val Asn Asn Gln Asn Lys Leu Leu Gly Phe
                 325                    330                    335
    Leu Asp Ile Glu Asp Ile Asn Gln Gly Leu Arg Ala Arg Lys Glu Leu
                 340                    345                    350
    Ile Asp Thr Met Gln Arg Asp Val Tyr Lys Val His Ile Asn Ser Lys
             355                    360                    365
    Leu Gln Asp Ser Val Arg Thr Ile Leu Lys Arg Asn Val Arg Asn Val
         370                    375                    380
    Pro Val Val Asp Asn Asp Glu His Leu Ile Gly Leu Ile Thr Arg Ala
    385                    390                    395                    400
    Asn Leu Val Asp Ile Val Tyr Asp Ser Ile Trp Gly Glu Glu Asp Ser
                 405                    410                    415
    Asp Ser Tyr Glu Ile Pro Asn Glu Ser Leu Asp Glu Asn Asn His Asp
                 420                    425                    430
    Leu Pro Gln Asn Gln Thr Asp Thr Arg Thr Asn Ile Asn Glu Asp Val
             435                    440                    445
    Asn Asp Tyr His Asp Ala Gln His Arg Gly Glu Asp
         450                    455                    460
```

```
<210> 4933
<211> 40
<212> PRT
<213> S.epidermidis
```

```
<400> 4933
Asn Leu Ile Ser Asn Lys Thr Lys Val Tyr Val Lys Asp Val Tyr Gln
1               5                   10                  15
Arg Asp His Val His Phe Leu Thr Met Asn Lys Val Asp Leu Lys Ile
             20                  25                  30
Arg Lys Glu Glu Gln Arg Arg Cys
         35                  40
```

```
<210> 4934
<211> 586
<212> PRT
<213> S.epidermidis
```

```
<400> 4934
Lys Gly Arg Leu Phe Val Lys Met Ala Gln Ile Lys Ala Asn Glu Ala
```

```
1                   5                        10                       15
Leu Val Lys Ala Leu Gln Thr Trp Asn Ile Asp His Leu Tyr Gly Ile
            20                      25                   30
Pro Gly Asp Ser Val Asp Ala Val Val Asp Ser Leu Arg Thr Val Arg
            35                      40                   45
Asp Gln Phe Lys Phe Tyr His Val Arg His Glu Gln Val Ala Ser Leu
        50                  55                  60
Ala Ala Ala Ser Tyr Thr Lys Met Thr Gly Lys Ile Gly Val Ala Leu
65                  70                  75                       80
Ser Ile Gly Gly Pro Gly Ile Val His Leu Leu Asn Gly Met Tyr Asp
                85                  90                      95
Ala Lys Met Asp Asn Val Pro Gln Leu Ile Ile Ala Gly Gln Thr Asn
            100                 105                 110
Ser Thr Leu Leu Gly Thr Lys Phe Phe Gln Gln Thr Asn Ile Ser Lys
        115                 120                 125
Met Val Asp Asp Val Ala Val Tyr His His Gln Ile Gln Lys Gly Asp
        130                 135                 140
Asn Val Phe Glu Ile Thr Asn Glu Ala Ile Arg Thr Ala Tyr Glu Lys
145                 150                 155                      160
Lys Gly Val Ser Val Ile Ile Cys Pro Asn Asp Leu Leu Thr Gln Lys
                165                 170                     175
Ile Lys Asp Thr Thr Asn Arg Ala Val Asp Thr Thr Lys Pro Lys Pro
            180                 185                 190
Ala Ser Pro Lys Phe Lys Ser Ile Lys Lys Ala Ala Lys Leu Ile Asp
        195                 200                 205
Lys Ala Lys Lys Pro Val Met Leu Ile Gly Leu Gly Thr Gln His Ala
    210                 215                 220
Lys Asp Glu Leu Arg Glu Phe Ile Glu Ala Ala Lys Ile Pro Val Ile
225                 230                 235                      240
His Thr Leu Pro Ala Lys Thr Ile Leu Pro Asp Asp His Pro Tyr Ser
            245                 250                 255
Ile Gly Asn Leu Gly Lys Ile Gly Thr Lys Thr Ser Tyr Gln Thr Ile
            260                 265                 270
Gln Asp Ala Asp Leu Leu Ile Met Ala Gly Thr Asn Tyr Pro Tyr Val
        275                 280                 285
Asn Tyr Leu Pro Lys Lys Asn Ile Lys Ala Ile Gln Ile Asp Thr Asn
    290                 295                 300
Glu Glu Asn Ile Gly Ala Arg Phe Lys Ile Asn Val Gly Ile Leu Gly
305                 310                 315                      320
Asp Ser Lys Val Ala Phe His Gln Leu Thr Glu Asn Ile Lys His Val
            325                 330                 335
Ala Lys Arg Pro Phe Leu Asp Lys Thr Leu Glu Arg Lys Ala Val Trp
            340                 345                 350
Asp Lys Trp Met Lys Gln Asp Leu Asn Asn Asp Asn Ser Pro Leu Arg
            355                 360                 365
Pro Glu Arg Leu Met Lys Ala Ile Asn Ala Asn Leu Lys Asp Asp Ala
    370                 375                 380
Ile Ile Ser Ala Asp Val Gly Thr Ser Thr Val Trp Ser Thr Arg Tyr
385                 390                 395                      400
Leu Asn Leu Ser Val Asn Asn Lys Phe Ile Ile Ser Ser Trp Leu Gly
            405                 410                 415
Thr Met Gly Cys Gly Leu Pro Gly Ala Met Ala Ala Lys Ile Ala Tyr
            420                 425                 430
Pro Asn Arg Gln Ala Val Ala Ile Thr Gly Asp Gly Ala Phe Gln Met
        435                 440                 445
Val Met Gln Asp Phe Ala Thr Ala Val Gln Tyr Asn Leu Pro Met Thr
```

```
      450                      455                      460
Ile Phe Val Leu Asn Asn Lys Gln Leu Ser Phe Ile Lys Tyr Glu Gln
465                      470                      475                      480
Gln Ala Ala Gly Glu Leu Glu Tyr Ala Ile Asp Phe Ser Asp Met Asp
                  485                      490                      495
His Ala Lys Phe Ala Glu Ala Ala Gly Gly Lys Gly Tyr Val Val Lys
                  500                      505                      510
Asp Val Ser Arg Leu Asp Asn Ile Val Glu Glu Ala Met Ala Gln Asp
                  515                      520                      525
Val Pro Thr Ile Val Asp Val His Val Asp Pro Asn Ala Ala Pro Leu
                  530                      535                      540
Pro Gly Lys Ile Val Asn Glu Glu Ala Phe Gly Tyr Ser Lys Trp Ala
545                      550                      555 ,                    560
Tyr Arg Ser Ile Thr Glu Asp Lys Asn Leu Asp Phe Asp Gln Ile Pro
                  565                      570                      575
Pro Ile Ser Val Ala Ala Lys Arg Phe Leu
                  580              .       585
```

<210> 4935
<211> 108
<212> PRT
<213> S.epidermidis

<400> 4935
```
Glu Gly Val Arg Met Lys Gly Lys Glu Lys Val Lys Val Thr Thr Met
1                 5                      10                      15
Asn Glu Met Ile Pro Gln Ile Gly Lys Lys Val Val Val Asn Glu Lys
                  20                      25                      30
Glu Ile Gly Ile Phe Leu Thr Asp Asn Gly Asp Leu Tyr Ala Ile Gly
            35                      40                      45
Asn Ile Cys Pro His Lys Glu Gly Pro Leu Ser Glu Gly Thr Val Ser
      50                      55                      60
Gly Asp Tyr Val Tyr Cys Pro Leu His Asp Gln Lys Ile Ala Leu Lys
65                      70                      75                      80
Thr Gly Glu Val Gln Gln Pro Asp Thr Gly Cys Val Glu Thr Tyr Glu
                  85                      90                      95
Val Glu Val Ile Asp Gly Asp Ile Tyr Leu Cys Leu          〉
            100                     105
```

<210> 4936
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4936
```
His Val Thr Ser Tyr Leu Thr Ser Ile Phe Arg Lys Ile Leu Ser Phe
1                 5                      10                      15
Ile Met Lys Ser Phe Tyr Val Leu Asn Tyr Gln Phe Ser Ile Lys Ile
                  20                      25                      30
Lys Thr Ser Cys Lys Val Thr Asn Thr Leu Gln Glu Ala Tyr Ile Ile
            35                      40                      45
Asp Gln Tyr
      50
```

<210> 4937
<211> 48

<212> PRT
<213> S.epidermidis

<400> 4937
Thr Asn Gln Ser Ile Asn Leu Cys Ser Pro Lys Asp Tyr Leu Ile Ile
1   5   10   15
Ala Ile Ala Arg Phe His Ile Ile Ser Arg Phe Glu Ser Asn Tyr Phe
            20   25   30
Ser Glu Arg Ile Pro Val Val Ile Asn Ile Asp His Phe Leu Ile Ser
        35   40   45

<210> 4938
<211> 236
<212> PRT
<213> S.epidermidis

<400> 4938
Ile Ile Glu Arg Lys Phe Leu Phe Met Pro Lys Leu Ile Leu Cys Arg
1   5   10   15
His Gly Gln Ser Glu Trp Asn Ala Lys Asn Leu Phe Thr Gly Trp Ala
            20   25   30
Asp Val Lys Leu Ser Lys Gln Gly Ile Glu Glu Ala Gln Ser Ala Gly
            35   40   45
Lys Lys Ile Tyr Asp Asn Gln Ile Glu Ile Asp Ile Ala Phe Thr Ser
        50   55   60
Leu Leu Thr Arg Ala Leu Glu Thr Thr Gln Tyr Ile Leu Ala Gly Ser
65   70   75   80
Asp Gln Gln Trp Ile Pro Val Tyr Lys Ser Trp Arg Leu Asn Glu Arg
                85   90   95
His Tyr Gly Gly Leu Gln Gly Leu Asn Lys Asp Asp Ala Arg Lys Lys
                100   105   110
Trp Gly Glu Asp Gln Val His Gln Trp Arg Arg Ser Tyr Asp Val Arg
            115   120   125
Pro Pro Arg Glu Ser Glu Glu Gln Arg Glu Ala Tyr Leu Lys Asn Arg
        130   135   140
Arg Tyr Gln His Ile Asp His Arg Met Met Pro Tyr Cys Glu Ser Leu
145   150   155   160
Lys Asp Thr Leu Glu Arg Val Val Pro Phe Trp Thr Asp His Ile Ser
                165   170   175
Gln His Leu Leu Asp Asp Lys Thr Val Leu Val Ser Ala His Gly Asn
            180   185   190
Ser Ile Arg Ala Leu Ile Lys Tyr Leu Glu Gly Leu Ser Glu Glu Asp
        195   200   205
Ile Val Gly Tyr Glu Ile Lys Thr Gly Ala Pro Leu Val Tyr Glu Leu
    210   215   220
Thr Asp Asp Leu Val Val Lys Asp Lys Tyr Tyr Leu
225   230   235

<210> 4939
<211> 300
<212> PRT
<213> S.epidermidis

<400> 4939
Gly Val Glu Ser Met Asn Lys Glu Gln Leu Glu Lys Met Thr His Gly
1   5   10   15

```
Lys Gly Phe Ile Ala Ala Leu Asp Gln Ser Gly Gly Ser Thr Pro Lys
            20                      25                  30
Ala Leu Lys Glu Tyr Gly Val Asn Glu Asp Gln Tyr Ser Asn Glu Asp
        35                      40                  45
Glu Met Phe Gln Leu Val His Asp Met Arg Thr Arg Val Val Thr Ser
    50                      55                  60
Pro Ser Phe Ser Pro Asp Lys Ile Leu Gly Ala Ile Leu Phe Glu Gln
65                      70                  75                  80
Thr Met Asp Arg Glu Val Glu Gly Lys Tyr Thr Gly Asp Tyr Leu Ala
                85                  90                  95
Asp Lys Gly Val Val Pro Phe Leu Lys Val Asp Lys Gly Leu Ala Glu
            100                     105                 110
Glu Lys Asn Gly Val Gln Leu Met Lys Pro Ile Asp Asp Leu Asp Glu
        115                     120                 125
Thr Leu Asp Arg Ala Asn Glu Arg His Ile Phe Gly Thr Lys Met Arg
    130                     135                 140
Ser Asn Ile Leu Glu Leu Asn Glu Gln Gly Ile Lys Asp Val Val Glu
145                     150                     155                 160
Gln Gln Phe Glu Phe Ala Lys Lys Ile Ile Ala Lys Gly Leu Val Pro
                165                     170                 175
Ile Ile Glu Pro Glu Val Asn Ile Asn Ala Lys Asp Lys Ser Glu Ile
            180                     185                 190
Glu Lys Val Leu Lys Ala Glu Ile Lys Lys Gly Leu Asp Ser Leu Asn
        195                     200                 205
Asp Asp Gln Leu Val Met Leu Lys Leu Thr Ile Pro Thr Glu Ala Asn
        210                     215                 220
Leu Tyr Lys Asp Leu Ala Asp His Pro Asn Val Val Arg Val Val Val
225                     230                     235                 240
Leu Ser Gly Gly Tyr Ser Arg Asp Glu Ala Asn Lys Leu Leu Lys Asp
                245                     250                 255
Asn Asp Glu Leu Ile Ala Ser Phe Ser Arg Ala Leu Ala Ser Asp Leu
            260                     265                 270
Arg Ala Ser Gln Ser Gln Glu Glu Phe Asp Lys Ala Leu Gly Asp Ala
    275                     280                 285
Val Asp Ser Ile Tyr Asp Ala Ser Val Asn Lys Asn
    290             .       295                 300
```

```
<210> 4940
<211> 284
<212> PRT
<213> S.epidermidis


<400> 4940
Gln Lys Gly Ser Ile Thr Met His Lys Arg Leu Phe Ile Thr Leu Leu
1               5                   10                  15
Gly Phe Ile Ile Leu Leu Ala Gly Cys Asp Tyr Ser Lys Glu Glu Asn
            20                      25                  30
Gln Thr Gly Ile Phe Tyr Asn Val Phe Val Lys Ser Met Asp Gly Phe
        35                      40                  45
Leu His Phe Leu Gly Arg Val Phe Gln Asp Asn Tyr Gly Phe Ala Ile
    50                      55                  60
Ile Ser Ile Val Leu Ile Val Arg Phe Ile Leu Leu Pro Phe Met Leu
65                      70                  75                  80
Ile Gln Val Lys Asn Met His Met Met Arg Glu Lys Thr Lys Val Val
                85                  90                  95
Gln Pro Glu Leu Asp Ala Ile Arg Asp Lys Met Lys His Ala Thr Ser
```

```
            100                   105                   110
Gln Glu Glu Arg Asn Ala Ala Asn Gln Leu Leu Met Lys Lys Tyr Gln
            115                   120                   125
Ser Tyr Gly Ile Asn Pro Leu Lys Asn Met Leu Gly Cys Leu Pro Val
            130                   135                   140
Leu Ile Gln Met Pro Ile Leu Met Gly Leu Tyr Met Ser Leu Lys Tyr
145                   150                   155                   160
Pro Ser Ser His Gly Ile Thr Glu Tyr Pro His Phe Leu Trp Phe Asp
                165                   170                   175
Leu Thr Gln Pro Asp Leu Ile Met Thr Ile Ile Ala Ala Ile Met Tyr
            180                   185                   190
Phe Val Gln Pro Leu Val Asn Ser Ile His Tyr Pro Lys Asp Gln Arg
            195                   200                   205
Lys Thr Tyr Tyr Phe Met Met Val Phe Ser Pro Ile Phe Ile Thr Tyr
            210                   215                   220
Ala Ser Leu His Ser Ala Ala Ala Leu Gly Leu Tyr Trp Ser Ile Ser
225                   230                   235                   240
Ala Ala Phe Leu Ile Val Gln Met His Phe Ala His Ser His Tyr Lys
                245                   250                   255
Lys Val Ala Leu His Glu Ala Lys Lys Leu Lys Gln Lys Leu Glu Gln
            260                   265                   270
Asn Lys Asp Asn Ser Glu Leu Leu Thr Glu Glu Ser
            275                   280
```

<210> 4941
<211> 453
<212> PRT
<213> S.epidermidis

<400> 4941

```
Asn Ser Leu Arg Val Tyr Lys Tyr Asn His Ala Lys Cys Ile Tyr Ile
1                   5                   10                  15
Tyr Tyr Ile Ile Thr Phe Leu Asn Ile Ser Asn Asn Ser Tyr Leu Glu
            20                  25                  30
Arg Ile Ser Phe Met Lys Lys Leu Ile Thr Leu Ile Val Met Ile Ser
            35                  40                  45
Phe Val Leu Ala Ser Cys Gly Gly Thr Ser Ser Thr Asp Lys Asp Thr
            50                  55                  60
Leu Asn Val Glu Ile Pro Leu Lys Thr Lys Ser Ile Ala Pro Tyr Glu
65                  70                  75                  80
Thr Asp Ile Pro Val Lys Thr Gly Ala Leu Glu Ser Leu Phe Lys Met
                85                  90                  95
Ser Lys Asn Gly Lys Val Lys Pro Leu Leu Val Lys Asn Tyr His Gln
            100                 105                 110
Val Ser Asp Asn Gln Leu Glu Leu Thr Leu Lys Asp Asn Ile Lys Phe
            115                 120                 125
Gln Asn Gly His His Leu Thr Gly Glu Ala Val Lys Arg Ser Leu Glu
            130                 135                 140
Glu Gly Met Lys Lys Ser Asp Leu Leu Lys Gly Ser Leu Pro Ile Lys
145                 150                 155                 160
Ser Ile Asn Ala His Gly Gln Lys Val Thr Ile Thr Thr Lys Glu Pro
                165                 170                 175
Tyr Pro Glu Leu Met Ser Glu Leu Ala Ser Pro Phe Ala Ala Ile Tyr
            180                 185                 190
Asp Thr Lys Ala Lys Asn Lys Val Thr Asp Gln Pro Val Gly Thr Gly
            195                 200                 205
```

```
Pro Tyr Lys Ile Asp Gln Tyr Lys Arg Ser Gln Lys Ile Val Leu Lys
    210             215             220
Gln Phe Lys Asp Tyr Trp Gln Gly Thr Pro Lys Leu Lys Arg Ile Asn
225             230             235             240
Val Thr Tyr His Glu Asp Gly Asn Thr Arg Val Asp His Leu Leu Ser
            245             250             255
Gly Lys Ser Asp Leu Thr Thr Asp Val Pro Ile Glu Arg Val Asp Asp
            260             265             270
Val Lys Lys Ser Asn Lys Ala Asn Ile Gln Ser Thr Ser Gly Phe Arg
            275             280             285
Thr His Leu Met Leu Tyr Asn His Asp Ser Lys Lys Val Asn Lys Lys
    290             295             300
Val Arg Glu Ala Leu Asp Met Ile Ile Asn Arg Lys Asp Ile Ala Lys
305             310             315             320
Asn Val Ser Lys Asn Tyr Ala Glu Pro Ala Ser Gly Pro Phe Asn His
            325             330             335
Arg Leu Lys Ser Leu Glu Lys Glu Glu Ile Gln Ser Gln Asp Ile Lys
            340             345             350
Arg Ala Lys Glu Leu Leu Ala Gln Glu Gly Tyr Ser Lys Ser His Pro
            355             360             365
Leu Lys Leu Asn Met Val Thr Tyr Asp Gly Arg Pro Glu Leu Pro Lys
    370             375             380
Ile Gly Gln Val Ile Gln Ser Glu Ala Lys Lys Ala Asn Val Asp Ile
385             390             395             400
Gln Leu Arg Asn Val Asp Asp Ile Glu Gly Tyr Leu Lys Asn Lys Gln
            405             410             415
Ser Trp Asp Val Ser Met Tyr Ser Tyr Leu Ser Val Pro Arg Gly Asp
            420             425             430
Thr Gly Tyr Phe Phe Asn Thr Ala Tyr Leu Pro Asp Gly Ala Leu Asn
            435             440             445
Lys Gly Asn Tyr Arg
    450
```

<210> 4942
<211> 476
<212> PRT
<213> S.epidermidis

<400> 4942

```
Gly His Met Arg Tyr Arg Met Thr Leu Gln Asn His Leu Lys His Arg
1               5               10              15
Ile Leu Leu Ile Tyr Gly Asp Asn Ser Leu Lys Arg Cys Tyr Met Ile
            20              25              30
Asn Leu Phe Glu Asn Tyr Asn Gln Glu Thr Gln Glu Leu His Gln Ser
            35              40              45
Leu Lys Arg Ala Gly Tyr Asn His Phe Thr Ile Val Ile Asn Asp Asp
    50              55              60
Gly Phe Leu Pro Asp Asp Val Thr Ser Pro Tyr Arg Phe Phe Thr Ala
65              70              75              80
Tyr Gln Ile Tyr Glu Asp Asp Thr Pro Ala Phe Phe Asn Asp Ile Asp
            85              90              95
Thr Pro Pro Phe Trp Glu Ile Lys Gly Asp Ala Thr Met Ala Thr Ile
            100             105             110
Thr Asp Met Gly Glu Leu Arg Gly Lys Ile Phe Tyr Lys Glu His Tyr
    115             120             125
Lys Thr Arg Val Val Ser His Val Glu Trp Leu Asp Ser Lys Gln Arg
```

```
            130                   135                   140
Leu Arg Ser Val Asp Tyr Tyr Thr Lys Glu Gly Phe Lys Phe Ala Glu
145                   150                   155                   160
Thr Val Tyr Asp Leu Leu Gly Asn Ala Ile Leu Lys Lys Tyr Met Thr
                165                   170                   175
Arg Glu Gly Lys Glu Val Ile Tyr Glu Asn Tyr Val Thr Asn Asp Val
            180                   185                   190
Val Val Glu Tyr Glu Gly Lys Ser Tyr Phe Phe Glu Ser Tyr Thr Glu
            195                   200                   205
Trp Ile Lys Phe Tyr Leu Ser Glu Met Gly Ile Glu Ile Lys Glu Val
        210                   215                   220
Ile Phe Asn Thr Leu Ser Thr Pro Phe Leu Ala Ile Tyr His Leu Pro
225·                  230                   235                   240
Thr Leu Lys Lys Gly Ile Leu Phe Trp Gln Glu Gln Ser Gln Gly Tyr
                245                   250                   255
Val Pro Gly Asn Met Lys Val Met Leu Ser Pro Asn Leu Gln Ser Arg
            260                   265                   270
Phe Ala Val Ile Val Pro Asn Gln Asn Glu Tyr Lys Leu Ile Lys Glu
            275                   280                   285
Gln Leu Ser Arg Glu Glu Gln Gln Ala Val Tyr Ala Ser Gly Tyr Leu
        290                   295                   300
Tyr Asp Thr Tyr Lys Arg Asn His Tyr Ser Lys Asn Val Leu Thr Leu
305                   310                   315                   320
Thr Asn Ser Asp Gln Ile Pro His Val Glu Thr Leu Val Arg Leu His
                325                   330                   335
Lys Asp Tyr Gln Phe His Ile Gly Ala Lys Thr Glu Met Ser Ser Lys
            340                   345                   350
Leu Leu Ser Leu Ser Gln Tyr Glu Asn Val Lys Leu Tyr Pro Ile Ile
        355                   360                   365
Lys Glu Gln Thr Val Gln Thr Leu Tyr Gln Gln Cys Asp Ile Tyr Leu
    370                   ·375                  380
Asp Ile Asn Glu Gly Asn Glu Ile Gly Asn Ala Val Arg Ser Ala Tyr
385                   390                   395                   400
Asn His Gln Leu Leu Ile Met Gly Tyr Lys Glu Val Val His Asn Gln
                405                   410                   415
Asp Phe Val Ala Ile Glu Asn Gln Phe Leu Val Asn Asp Ile Ser Gln
            420                   425                   430
Leu Ser Asn Ala Leu Lys Glu Ile Gly Asn His Arg Gly Gln Phe Glu
            435                   440                   445
Thr Arg Leu Ala Leu Gln Gln Arg His Ala Asn Ala Val Pro Val Ser
        450                   455                   460
Thr Phe Lys Tyr Ala Leu Val Gln Ala Leu Ser Gly
465                   470                   475
```

<210> 4943
<211> 260
<212> PRT
<213> S.epidermidis

<400> 4943
```
Met Val Met Ser Asn Thr Ala Leu Cys Leu Thr Ala Leu Leu Leu Leu
1               5                   10                  15
Ile Pro Ile Phe Ile Ser Tyr Lys Glu Gly Leu His Ile Ile Lys Asp
            20                  25                  30
Leu Val Ile Ala Thr Ile Arg Ala Thr Ile Gln Leu Leu Ile Leu Gly
        35                  40                  45
```

```
Phe Leu Leu His Tyr Ile Phe Glu Ile Asn Glu Lys Trp Leu Leu Val
    50                  55                  60
Leu Cys Val Leu Val Ile Ile Ile Asn Ala Ser Trp Asn Thr Ile Ser
65                  70                  75                  80
Arg Ala Ser Pro Val Met His His Val Phe Trp Ile Ser Phe Val Ala
                85                  90                  95
Ile Phe Val Gly Thr Ala Leu Pro Leu Ala Ala Thr Val Ala Thr Gly
            100                 105                 110
Ala Ile Lys Phe Thr Ala Asn Glu Val Ile Pro Ile Gly Gly Met Leu
        115                 120                 125
Ala Asn Asn Gly Leu Ile Ala Ile Asn Leu Ala Tyr Gln Asn Leu Glu
    130                 135                 140
Lys Ala Phe Val Gln Asp Val Ser Asp Ile Glu Ser Lys Leu Thr Leu
145                 150                 155                 160
Ala Ala Thr Pro Lys Leu Ala Ser Lys Ser Ser Ile Arg Glu Ser Ile
                165                 170                 175
Arg Leu Ala Ile Val Pro Thr Ile Asp Ser Val Lys Thr Tyr Gly Leu
            180                 185                 190
Val Ser Ile Pro Gly Met Met Thr Gly Leu Ile Ile Gly Gly Val Asp
        195                 200                 205
Pro Leu Gln Ala Ile Lys Phe Gln Leu Leu Val Val Phe Ile His Thr
    210                 215                 220
Thr Ala Thr Ile Met Ser Ala Leu Ile Ala Thr Tyr Met Ser Tyr Gly
225                 230                 235                 240
Gln Phe Phe Asn Ala Arg His Gln Leu Ile Ala Arg Thr Gln Arg Thr
                245                 250                 255
Arg Gln Ser Ser
            260
```

<210> 4944
<211> 276
<212> PRT
<213> S.epidermidis

<400> 4944
```
Arg Glu Met Arg Ile Glu Lys Met Lys Ile Gly Thr Ile Ser Asp Leu
1               5                   10                  15
His Ile Asp Arg His Pro His Leu Asn Pro Glu Ile Tyr Leu Glu Lys
            20                  25                  30
Leu Cys Gln Val Ile Lys Gln Arg Ser Ile Glu Leu Leu Ile Ile Ala
        35                  40                  45
Gly Asp Ile Ser Asn Asp Tyr Arg Ile Ser Tyr Asp Phe Ile Gln Ser
    50                  55                  60
Ile Gln Glu Leu Ser Gly Ile Pro Thr Tyr Phe Val Pro Gly Asn His
65                  70                  75                  80
Asp Leu Trp Ser Asp Gln Ala Asp Lys Thr Ser Thr Glu Ile Leu Ser
                85                  90                  95
Phe Phe Arg Ser Lys Glu Glu Cys Leu Ile Gly Asn Pro Ile Ile Ile
            100                 105                 110
Asn Asp Gln Tyr Ala Ile Val Gly His Val Gly Trp Tyr Asp Tyr Ser
        115                 120                 125
Tyr Ala Asp His Arg Phe Ser Gln Gln Lys Ile Ala Ser Gly Lys His
    130                 135                 140
Tyr Gly Ala Thr Trp Gln Asp Lys Val Arg Thr Asp Trp Ser Leu Ser
145                 150                 155                 160
Asp Pro Lys Leu Ser Leu Leu Ala Ala Gln Glu Val Glu Lys Asp Ile
```

```
                    165                 170                 175
Asn Asn Val Ser Pro Arg Gln Ile Ile Leu Val Thr His Val Val Thr
            180                 185                 190
His Pro Gln Phe Val Val Pro Thr Pro His Arg Ile Phe Asp Phe Phe
        195                 200                 205
Asn Ala Phe Ile Gly Thr His Asp Phe Asp Thr Ile Tyr Arg Asn Tyr
    210                 215                 220
Pro Ile Arg Phe Ser Ile Met Gly His Val His Phe Arg Lys Lys Leu
225                 230                 235                 240
Val Glu Asn Asn Ile Leu Tyr Ile Cys Pro Cys Leu Gly Tyr Gln Arg
            245                 250                 255
Gln Trp Met Thr Asp Asp Ile Ala Tyr Glu Ile Asn His Ala Leu Val
            260                 265                 270
Asp Phe Asp Ile
        275


<210> 4945
<211> 124
<212> PRT
<213> S.epidermidis

<400> 4945
Val Gly Val Ser Met Leu Lys Lys Leu Leu Val Gly Val Ser Val Leu
1                   5                   10                  15
Thr Leu Leu Leu Ala Gly Cys Met Ser His Glu Tyr Ala Asp Lys Ile
            20                  25                  30
Asp Lys Ala Val Lys Leu Gln Glu Lys Lys Gln Gln Lys Ile Ala Lys
        35                  40                  45
Asn Asp Ser Gly Asp Glu Val Lys His Phe Asp Lys Lys Asp Ala Asn
    50                  55                  60
Ile Tyr Val Phe Asp Lys Gly Lys Tyr Val Val Leu Glu Tyr Lys Pro
65                  70                  75                  80
Leu Ser Asp Asp Ala Glu Ala Arg Tyr Tyr Thr Tyr Glu Phe Lys Asp
            85                  90                  95
Lys Lys Ala Tyr Tyr Asn Lys Asp Phe Asn Ala Lys Ala Tyr Tyr Gln
            100                 105                 110
Ser His Glu Pro Asp Tyr Lys Glu Glu Asn Met Tyr
        115                 120


<210> 4946
<211> 157
<212> PRT
<213> S.epidermidis

<400> 4946
Arg Lys Gln Arg Gly Met Val Ile Leu Glu Gln Thr His Leu Val Lys
1                   5                   10                  15
Asn Lys Thr Val Asp Asn Lys Lys Ser Met Lys Tyr Ser Ile Phe Gln
            20                  25                  30
Gln Ala Leu Thr Ile Ala Val Ile Leu Leu Ile Ser Lys Ile Ile Glu
        35                  40                  45
Ser Phe Met Pro Ile Pro Met Pro Ala Ser Val Ile Gly Leu Val Leu
    50                  55                  60
Leu Phe Ile Ala Leu Cys Thr Gly Ile Val Lys Leu Gly Gln Val Glu
65                  70                  75                  80
Thr Val Gly Thr Ala Leu Thr Asn Asn Ile Gly Phe Leu Phe Val Pro
```

```
                      85                   90                     95
Ala Gly Ile Ser Val Ile Asn Ser Leu Pro Ile Leu Lys Gln Ser Pro
            100                 105                 110
Ile Leu Ile Ile Leu Leu Ile Ile Ile Ser Thr Leu Leu Leu Leu Ile
        115                 120                 125
Cys Thr Gly Phe Ala Ser Gln Leu Leu Val Thr Lys Ser Leu Phe Pro
        130                 135                 140
Ser Lys Glu Lys Asn Glu Glu Thr Ser His Val Gly Gly
145                 150                 155
```

<210> 4947
<211> 496
<212> PRT
<213> S.epidermidis

<400> 4947

```
Arg Thr Glu Arg Ser Thr Met Asn Tyr Leu Lys Gln Tyr Glu Ser Phe
1               5                   10                  15
Phe Trp Leu Ile Gly Ile Phe Ile Phe Tyr Leu Ile Met Ala Ile Leu
            20                  25                  30
Thr Pro Leu Ser Thr Thr Asp Trp His Ala Tyr Lys Val Asn Leu Ser
            35                  40                  45
Gln Tyr Leu Thr Gln Glu Asn Gly Arg Tyr Leu Gly His Leu Phe Glu
            50                  55                  60
Trp Val Ala Val His Asn Ile Ile Ile Arg Ala Leu Ile Tyr Ala Ile
65                  70                  75                  80
Thr Ser Phe Leu Val Ile Tyr Leu Val Ala Tyr Met Val Gln Leu His
                85                  90                  95
Thr Asn Arg Phe Tyr Phe Ile Leu Ser Phe Val Leu Met Val Thr Val
            100                 105                 110
Pro Asn Thr Ile Tyr Ser Glu Thr Tyr Gly Trp Phe Thr Gly Phe Phe
            115                 120                 125
Ser Tyr Ile Pro Ala Thr Val Leu Ser Leu Phe Ile Leu Phe Thr Val
            130                 135                 140
Val Lys Met Ile Glu Ser His Asp Thr Val Ser Glu Met Gln Leu Trp
145                 150                 155                 160
Val Phe Leu Leu Val Ser Leu Phe Gly Gln Phe Phe Leu Glu Asn Leu
                165                 170                 175
Ser Ile Ala Asn Ser Leu Ile Ile Leu Ile Gly Met Val Val Tyr Phe
            180                 185                 190
Phe Val Lys Lys Arg Leu Ser Tyr Phe Leu Ile Val Gly Phe Met Leu
            195                 200                 205
Ser Cys Ile Gly Asn Ile Ile Met Phe Leu Asn Phe Asn Tyr Phe Leu
            210                 215                 220
Ile Lys Asp Gly Leu Asn Thr His Tyr Ser Ile Ser Asp Ser His Gly
225                 230                 235                 240
Met Ile His Lys Ala Gly Val Thr Leu Phe Lys Leu Val Pro Glu Tyr
                245                 250                 255
Met Phe Ile Asn Gln Met Ile Ile Leu Thr Val Ile Ser Ile Val Ser
            260                 265                 270
Ile Val Leu Leu Lys Gln Asn Lys Ser Leu Lys His Met Arg Val Tyr
            275                 280                 285
Ile Lys Ile Pro Leu Leu Leu Gly Leu Ile Thr Leu Pro Ile Tyr Lys
            290                 295                 300
Ile Phe Val Tyr Asn Gln Phe His Phe Glu Leu Tyr Lys Ala Ser Phe
305                 310                 315                 320
```

```
Ser Ile Ala Val Leu Asn Thr Thr Ile Cys Phe Ile Tyr Met Ile Ser
            325                 330                 335
Val Ile Tyr Val Val Phe Lys Met Ile Gln Gln Arg Tyr Ile Arg Met
            340                 345                 350
Ile Val Met Gly Ser Phe Ile Ala Met Ala Ser Ser Val Leu Pro Leu
            355                 360                 365
Leu Phe Val Thr Pro Ile Ser Tyr Arg Asn Phe Tyr Phe Ile Tyr Thr
    370                 375                 380
Leu Trp Ile Val Ile Leu Leu Cys Leu Ile Gln Gln Cys Asp Val Leu
385                 390                 395                 400
Phe Lys Gln Leu Glu His Ile Ile Lys Ile Phe Ala Ile Ile Ile Ser
            405                 410                 415
Ile Ile Met Met Ile Gly Phe Thr Phe Ile His Ile Ser Ser Val His
            420                 425                 430
Arg Ile Asp Phe Ile Lys Glu Gln Ile Thr Gln His His Arg Tyr Gln
            435                 440                 445
Lys Ile Thr Leu Glu Arg Leu Pro Phe Glu Arg Tyr Thr His Met Thr
    450                 455                 460
Thr Pro Lys Ser Lys Glu Gln Leu Gln Asp Phe Lys His Tyr Tyr Asp
465                 470                 475                 480
Leu Pro Lys Asp Ile Thr Phe Lys Val Val Pro Tyr Gly Thr Lys Gln
            485                 490                 495
```

<210> 4948
<211> 174
<212> PRT
<213> S.epidermidis

<400> 4948
```
Lys Gly Trp Arg Ile Tyr Ala Leu Lys Lys Phe Ser Ala Thr Ile Val
1               5                   10                  15
Val Ile Ile Leu Ile Cys Ala Leu Gly Phe Ser Leu Tyr Ala Ala Ile
            20                  25                  30
Asn His His Thr Asn Ser Asn Lys Asn Asp Lys Lys Ile Glu His Asn
            35                  40                  45
Arg Lys Asn Lys Gln Asn Asp Thr Ser Asn Gln Asn Arg Asp Thr Asn
    50                  55                  60
Gln His Gln Asp Gln Thr Gln Pro Thr Asn Asn Asp Tyr Asn Asn Asp
65                  70                  75                  80
Asn Gln Ser Asp Thr Glu Gln Pro Ala Gln Gln Pro Asn Tyr His Gln
            85                  90                  95
Tyr Pro Asn Asn Asn Gln Gln Ser Gly Ser Asn Lys Asn Asn Ser Ser
             100                 105                 110
Glu Asn Asn Lys Gln Lys Pro Asn Gln Asn Lys Thr Asn Gln Ser Asp
            115                 120                 125
Tyr Gln Pro Ser Gln Ser Thr Pro Gln Gln Ser Ser Gln Pro Asn Asn
            130                 135                 140
Asn Gln Ser Asp Ser Gln Gln Asn Gly Asn Ser Asn Asn Asn Ser Asn
145                 150                 155                 160
Asn Gln Asn His Gly Thr Asn Asp Asn Gln Asn Lys Asn Arg
            165                 170
```

<210> 4949
<211> 451
<212> PRT
<213> S.epidermidis

<400> 4949

```
Phe Ile Arg Arg Ile Asp Met Lys Val Lys Ser Ile Ser Arg Phe Phe
1               5                   10                  15
Ser Met Lys Lys Val Thr Leu Ser Phe Val Thr Leu Phe Ile Gly Val
            20                  25                  30
Gly Thr Ile Gly Ser Tyr Asn Gln Tyr Ala Asp Ala Ser Met Lys Thr
        35                  40                  45
Gln Gln Thr His Val Thr Lys Ser Ser Pro Thr Gln Lys Thr Thr Ser
    50                  55                  60
Asn Phe Lys Arg Ser Val Lys Asp Thr Ser Val Lys Ser Arg Ala Thr
65                  70                  75                  80
Ser Ile Lys Arg Ala Thr Ser Thr Lys Gln Ala Ile Ser Pro Lys Thr
            85                  90                  95
Ser Ser Thr Lys Lys Thr Thr Ile Ala Lys Lys Ser Thr Thr Val Asn
            100                 105                 110
Lys Thr Arg Thr Thr Thr Lys Thr Gln Pro Thr Ile Arg Lys Ser Ser
        115                 120                 125
Thr Thr Ser Thr Arg Ser Lys Thr Met Pro Thr Ser Val Lys Arg Thr
    130                 135                 140
Thr Ser His Lys Ala Thr Thr Val Ser Pro Thr Ser Lys Ala Lys Ile
145                 150                 155                 160
Ser Thr Lys Thr Gln Gln Ser Thr Lys Ser His Thr Thr Ser Val Lys
            165                 170                 175
Lys Asn Thr Thr Gln Leu Ser Lys Thr Lys Ser Pro Ser Thr Ser Thr
            180                 185                 190
Lys Ser Lys Thr Val Gln Ser Ser Thr Thr Lys Ala Gln Pro Thr Leu
        195                 200                 205
Ser Thr Gln Val Ser Thr Thr Thr Lys Ala Lys Gln Phe Ser Thr Pro
    210                 215                 220
Thr Thr Ser Lys Thr Asp Ser Ser Lys Ser Leu Val Ser Leu Ala Ser
225                 230                 235                 240
Thr Glu Arg Lys Ile Asp Lys Tyr Gln Ser Met Thr Gln Leu Glu Lys
            245                 250                 255
Glu Thr Thr Glu Gly Val His Trp Arg Lys Asp Thr Lys Asn Thr Gly
            260                 265                 270
Asn Gln Val Leu Ile Val Ala Pro His Gly Gly Ser Ile Glu Gln Ser
            275                 280                 285
Thr Thr Glu Leu Thr Lys Thr Leu Ala Asp Lys Gly Asn Tyr Asp Tyr
    290                 295                 300
Tyr Ala Leu Glu Ser Ile Arg Pro Lys Asn Asn Ser Glu Leu His Val
305                 310                 315                 320
Thr Ser Thr His Tyr Asp Asp Pro Thr Leu Asn Gln Met Ile Lys Asn
            325                 330                 335
Arg Thr Ala Thr Ile Ser Ile His Gly Ala Ser Gly Thr Glu Glu Ile
            340                 345                 350
Ile Tyr Leu Gly Gly Pro Arg Ser Asp Leu Arg Asn Ala Ile Glu Lys
        355                 360                 365
Gln Leu Val Gly Cys Gly Phe Thr Val Lys Val Pro Pro Glu Tyr Leu
    370                 375                 380
Gly Gly Gln Asn Asn Lys Asn Phe Ile Asn Lys Glu Asp Asn Asn Thr
385                 390                 395                 400
Gly Val Gln Leu Glu Leu Thr Thr Ala Leu Arg Lys Ala Phe Phe Lys
            405                 410                 415
Asn Gly Asp Thr Ser Thr Lys Asn Arg Thr Asn Lys Glu Asn Trp Thr
            420                 425                 430
```

```
Pro Thr Met Glu Ala Phe Ile Asn Ala Leu Tyr Glu Gly Ile Asn Gln
        435                 440                 445
Thr Tyr Ser
    450
```

<210> 4950
<211> 162
<212> PRT
<213> S.epidermidis

<400> 4950
```
Leu Leu Ile Gly Arg Asn Lys Cys Met Lys Gly Ser Lys Lys Leu Asn
1               5                   10                  15
Glu Leu Leu Glu Asp Asn Gln Lys Lys Leu Lys Lys Leu Phe Lys Tyr
            20                  25                  30
Asp His Lys Lys Ala Leu Ala Phe Thr Pro Glu Asp Arg Glu Lys Val
            35                  40                  45
Lys Asp Lys Phe Gly Val Tyr Val Ile Phe Asp Glu Lys Lys Pro Val
    50                  55                  60
Phe Val Gly Gln Thr Gly Gly Tyr Ser Ser Thr His Gln Pro Ile Asn
65                  70                  75                  80
Ser Asp Leu Tyr Thr Lys Leu Gly Gln Tyr Asn Ser Arg Ser Glu Thr
            85                  90                  95
Gly Thr Thr Lys Phe Arg Lys Ala Tyr Ala Gln Asn Lys Asp Leu Asn
            100                 105                 110
Pro Asn His Leu Lys Asp Ile Thr Ala Asp Lys Tyr Gly Phe Thr Phe
            115                 120                 125
Gln Tyr Ile Lys Val Lys Asp Glu Pro Ala Phe Ile Asn Val Leu Glu
            130                 135                 140
Ile Leu Ala Leu Glu Tyr Ala Lys Asn Lys Gly Tyr Glu Leu Tyr Asn
145                 150                 155                 160
Phe Gln
```

<210> 4951
<211> 2137
<212> PRT
<213> S.epidermidis

<400> 4951
```
Glu Asn Tyr Gly Glu Phe Ile Met Thr Lys Lys Glu Lys Asp Tyr Lys
1               5                   10                  15
Lys Ser Leu Glu Gln Gln Lys Thr Arg Val Lys Ile Tyr Lys Ser Gly
            20                  25                  30
Lys Ser Trp Val Lys Ala Ser Ile Asn Glu Ile Glu Leu Leu Lys Thr
            35                  40                  45
Met Gly Leu Pro Phe Leu Ser Lys Asn Glu Ile Gln Glu Asn Val Thr
    50                  55                  60
Glu Lys Thr Lys Gly His Lys Leu Lys Lys Ser Ala Ala Lys Thr Thr
65                  70                  75                  80
Ala Leu Val Gly Gly Ala Phe Thr Phe Asn Met Leu Asn Asn His Gln
            85                  90                  95
Ala Phe Ala Ala Ser Glu Thr Pro Ile Thr Ser Glu Ile Ser Ser Asn
            100                 105                 110
Ser Glu Thr Val Ala Asn Gln Asn Ser Thr Thr Ile Lys Asn Ser Gln
            115                 120                 125
```

Lys Glu Thr Val Asn Ser Thr Ser Leu Glu Ser Asn His Ser Asn Ser
    130   135   140

Thr Asn Lys Gln Met Ser Ser Glu Val Thr Asn Thr Asp Gln Ser Ser
145   150   155   160

Glu Lys Ala Gly Ile Ser Gln Gln Ser Ser Glu Thr Ser Asn Gln Ser
           165   170   175

Ser Glu Leu Asn Thr Tyr Ala Ser Thr Asp His Val Glu Ser Thr Thr
          180   185   190

Thr Asn Asn Asp Asn Thr Ala Gln Gln Asp Gln Asn Lys Ser Ser Asn
      195   200   205

Val Thr Ser Lys Ser Thr Gln Ser Asn Thr Ser Ser Ser Glu Lys Asn
    210   215   220

Ile Ser Ser Asn Leu Thr Gln Ser Ile Glu Thr Lys Ala Thr Asp Ser
225   230   235   240

Leu Ala Thr Ser Glu Ala Arg Thr Ser Thr Asn Gln Ile Ser Asn Leu
          245   250   255

Thr Ser Thr Ser Thr Ser Asn Gln Ser Ser Pro Thr Ser Phe Ala Asn
          260   265   270

Leu Arg Thr Phe Ser Arg Phe Thr Val Leu Asn Thr Met Ala Ala Pro
          275   280   285

Thr Thr Thr Ser Thr Thr Thr Thr Ser Ser Leu Thr Ser Asn Ser Val
      290   295   300

Val Val Asn Lys Asp Asn Phe Asn Glu His Met Asn Leu Ser Gly Ser
305   310   315   320

Ala Thr Tyr Asp Pro Lys Thr Gly Ile Ala Thr Leu Thr Pro Asp Ala
          325   330   335

Tyr Ser Gln Lys Gly Ala Ile Ser Leu Asn Thr Arg Leu Asp Ser Asn
          340   345   350

Arg Ser Phe Arg Phe Thr Gly Lys Val Asn Leu Gly Asn Arg Tyr Glu
          355   360   365

Gly Tyr Ser Pro Asp Gly Val Thr Gly Gly Asp Gly Ile Gly Phe Ala
          370   375   380

Phe Ser Pro Gly Pro Leu Gly Gln Ile Gly Lys Glu Gly Ala Ala Val
385   390   395   400

Gly Ile Gly Gly Leu Asn Asn Ala Phe Gly Phe Lys Leu Asp Thr Tyr
          405   410   415

His Asn Thr Ser Thr Pro Lys Ser Asp Ala Lys Ala Lys Ala Asp Pro
          420   425   430

Arg Asn Val Gly Gly Gly Gly Ala Phe Gly Ala Phe Val Ser Thr Asp
          435   440   445

Arg Asn Gly Met Ala Thr Thr Glu Ala Ser Ser Ala Ala Lys Leu Asn
          450   455   460

Val Gln Pro Thr Asp Asn Ser Phe Gln Asp Phe Val Ile Asp Tyr Asn
465   470   475   480

Gly Asp Thr Lys Val Met Thr Val Thr Tyr Ala Gly Gln Thr Phe Thr
          485   490   495

Arg Asn Leu Thr Asp Trp Ile Lys Asn Ser Gly Gly Thr Thr Phe Ser
          500   505   510

Leu Ser Met Thr Ala Ser Thr Gly Gly Ala Lys Asn Leu Gln Gln Val
          515   520   525

Gln Phe Gly Thr Phe Glu Tyr Thr Glu Ser Ala Val Ala Lys Val Arg
          530   535   540

Tyr Val Asp Ala Asn Thr Gly Lys Asp Ile Ile Pro Pro Lys Thr Ile
545   550   555   560

Ala Gly Glu Val Asp Ala Thr Val Asn Ile Asp Lys Gln Leu Asn Asn
          565   570   575

```
Leu Lys Asn Ser Gly Tyr Ser Tyr Val Ser Thr Asp Ala Leu Gln Asn
            580                 585                 590
Ser Asn Tyr Ser Glu Thr Ser Gly Thr Pro Thr Leu Lys Leu Thr Asn
            595                 600                 605
Ser Ser Gln Thr Val Ile Tyr Lys Phe Lys Asp Val Gln Gly Pro Gln
    610                 615                 620
Ile Ser Val Asp Ser Gln Thr Arg Glu Val Gly Lys Thr Ile Asn Pro
625                 630                 635                 640
Ile Thr Ile Thr Thr Thr Asp Asn Ser Lys Asp Val Leu Thr Thr Thr
            645                 650                 655
Val Thr Gly Leu Pro Ser Gly Leu Ser Phe Asp Gln Thr Thr Asn Thr
            660                 665               ' 670
Ile Thr Gly Thr Pro Ser Glu Val Gly Thr Thr Thr Val Thr Val Asn
            675                 680                 685
Thr Thr Asp Ala Thr Gly Asn Val Thr Ser Lys Gln Phe Thr Ile Thr
    690                 695                 700
Ile Gln Asp Thr Ile Ser Pro Val Val Asn Val Thr Pro Ser Gln Ala
705                 710                 715                 720
Ser Glu Val Phe Thr Pro Ile Asn Pro Ile Thr Ile Thr Ala Thr Asp
            725                 730                 735
Asn Ser Gly Lys Val Val Thr His Thr Val Thr Gly Leu Pro Gln Gly
            740                 745                 750
Leu Lys Phe Asp Ala Ser Thr Asn Ser Ile Val Gly Thr Pro Thr Gln
            755                 760                 765
Ile Gly Thr Asn Thr Ile Thr Ile Glu Ser Thr Asp Ala Ser Gly Asn
            770                 775                 780
Lys Thr Thr Thr Lys Ile Asn Tyr Glu Val Thr Arg Asn Ser Ala Ser
785                 790                 795                 800
Asp Ser Thr Ser Thr Ser Ile Val Asn Ser Val Ser Thr Ser Ile Ser
            805                 810                 815
Asn Ser Thr Ser Leu Ser Asp Ser Val Lys Ala Ser Gln Ser Leu Ser
            820                 825                 830
Thr Ser Lys Ser Leu Ser Glu Ser Leu Ser Ala Ser Thr Ser Asn Ser
            835                 840                 845
Thr Ser Ile Gln Ala Ser Glu Ser Ala Ser Thr Ser Lys Gln Leu Ser
    850                 855                 860
Glu Ser Ala Ser Thr Ser Thr Ser Asp Ser Ala Ser Glu Ser Ala Arg
865                 870                 875                 880
Lys Ser Glu Ser Thr Ser Lys Ser Thr Ser Leu Ser Glu Ser Thr Ser
            885                 890                 895
Thr Ser Val Ser Asp Ser Ala Ser Val Ser Thr Ser Glu Ser Ala Ser
            900                 905                 910
Thr Ser Thr Ser Val Ser Gly Ser Thr Ser Thr Ser Ile Ser Asp Ser
            915                 920                 925
Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Ile Lys Ala Ser Glu Ser
    930                 935                 940
Ala Ser Thr Ser Lys Leu Leu Ser Glu Ser Val Ser Thr Ser Thr Ser
945                 950                   955                 960
Asp Ser Ala Ser Thr Ser Thr Ser Val Ser Asp Ser Asn Ser Ala Ser
            965                 970                 975
Thr Ser Leu Ser Lys Ser Thr Ser Thr Ser Val Ser Asp Ser Thr Ser
            980                 985                 990
Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser Glu Ser Glu Ser
            995                 1000                1005
Asp Ser Ala Ser Thr Ser Leu Ser Glu Ser Thr Ser Thr Ser Val Ser
    1010                1015                1020
```

Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Met Ser Ala Ser
1025   1030   1035   1040
Glu Ser Glu Ser Asn Ser Lys Ser Thr Ser Leu Ser Glu Ser Thr Ser
                1045   1050   1055
Thr Ser Leu Ser Gly Ser Thr Ser Ala Ser Thr Ser Asp Ser Ala Ser
                1060   1065   1070
Thr Ser Thr Ser Glu Ser Glu Ser Asp Ser Thr Ser Thr Ser Leu Ser
                1075   1080   1085
Glu Ser Thr Ser Thr Ser Leu Ser Gly Ser Thr Ser Ala Ser Thr Ser
                1090   1095   1100
Asp Ser Ala Ser Thr Ser Thr Ser Glu Ser Asp Ser Thr Ser Glu Ser
1105   1110   1115   1120
Thr Ser Leu Ser Glu Ser Leu Ser Thr Ser Val Ser Asp Ser Thr Ser
                1125   1130   1135
Ala Ser Thr Ser Glu Ser Ala Ser Thr Ser Thr Ser Glu Ser Glu Ser
                1140   1145   1150
Asn Ser Ala Ser Thr Ser Leu Ser Gly Ser Leu Ser Thr Ser Ile Ser
                1155   1160   1165
Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser
                1170   1175   1180
Glu Ser Glu Ser Asp Ser Thr Ser Thr Ser Leu Ser Glu Ser Thr Ser
1185   1190   1195   1200
Thr Ser Leu Ser Asp Ser Thr Ser Thr Ser Thr Ser Glu Ser Ala Ser
                1205   1210   1215
Thr Ser Thr Ser Glu Ser Asp Ser Thr Ser Glu Ser Thr Ser Leu Ser
                1220   1225   1230
Glu Ser Thr Ser Thr Ser Val Ser Asp Ser Thr Ser Ala Ser Thr Ser
                1235   1240   1245
Asp Ser Ala Ser Thr Ser Thr Ser Val Ser Asp Ser Glu Ser Ala Ser
                1250   1255   1260
Thr Ser Ile Ser Glu Ser Leu Ser Thr Ser Val Ser Asp Ser Thr Ser
1265   1270   1275   1280
Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser Glu Ser Asp Ser
                1285   1290   1295
Thr Ser Glu Ser Thr Ser Leu Ser Glu Ser Ile Ser Thr Ser Val Ser
                1300   1305   1310 ʼ
Asp Ser Thr Ser Ala Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser
                1315   1320   1325
Glu Ser Glu Ser Asp Ser Ala Ser Thr Ser Leu Ser Gly Ser Thr Ser
                1330   .   1335   1340
Thr Ser Leu Ser Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser
1345   1350   1355   1360
Thr Ser Thr Ser Glu Ser Asp Ser Glu Arg Ala Ser Thr Ser Leu Ser
                1365   1370   1375
Gly Ser Thr Ser Thr Ser Leu Ser Asp Ser Thr Ser Thr Ser Thr Ser
                1380   1385   1390
Asp Ser Ala Ser Thr Ser Thr Ser Val Ser Asp Ser Asn Ser Ala Ser
                1395   .   1400   1405
Thr Ser Leu Ser Gly Ser Leu Ser Thr Ser Val Ser Asp Ser Thr Ser
                1410   1415   1420
Thr Ser Thr Ser Asp Ser Ala Ser Ala Ser Thr Ser Glu Ser Asp Ser
1425   1430   1435   1440
Glu Arg Ala Ser Thr Ser Leu Ser Gly Ser Thr Ser Thr Ser Ile Ser
                . 1445   1450   1455
Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser
                1460   1465   1470

```
Val Ser Glu Ser Asn Ser Thr Ser Thr Ser Ile Ser Glu Ser Leu Ser
        1475                1480                1485
Thr Ser Val Ser Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser
        1490                1495                1500
Thr Ser Thr Ser Val Ser Asp Ser Asp Ser Ala Ser Thr Ser Ser Ser
1505                1510                1515                1520
Glu Ser Val Ser Thr Ser Asp Ser Glu Ser Thr Ser Thr Ser Thr Ser
            1525                1530                1535
Asp Ser Ala Ser Thr Ser Thr Ser Val Ser Glu Ser Asn Ser Thr Ser
        1540                1545                1550
Thr Ser Leu Ser Gly Ser Thr Ser Thr Ser Val Ser Asp Ser Thr Ser
        1555                1560                1565
Thr Ser Thr Ser Asp Ser Ala Ser Ala Ser Thr Ser Glu Ser Asp Ser
        1570                1575                1580
Asp Ser Ala Ser Thr Ser Ser Ser Glu Ser Val Ser Thr Ser Val Ser
1585                1590                1595                1600
Asp Ser Thr Ser Ala Ser Thr Ser Glu Ser Ala Ser Thr Ser Thr Ser
            1605                1610                1615
Val Ser Asp Ser Asn Ser Ala Ser Thr Ser Leu Ser Glu Ser Thr Ser
            1620                1625                1630
Thr Ser Leu Ser Asp Ser Thr Ser Met Ser Thr Ser Asp Ser Ala Ser
        1635                1640                1645
Thr Ser Thr Ser Glu Ser Asp Ser Asp Ser Ala Ser Thr Ser Leu Ser
        1650                1655                1660
Asp Ser Thr Ser Thr Ser Val Ser Glu Ser Thr Ser Thr Ser Thr Ser
1665                1670                1675                1680
Thr Ser Val Ser Ala Ser Asn Ser Thr Ser Thr Ser Leu Ser Asp Ser
            1685                1690                1695
Arg Ser Thr Ser Leu Ser Asp Ser Thr Ser Thr Ser Thr Ser Glu Ser
            1700                1705                1710
Gly Ser Thr Ser Thr Ser Glu Ser Asp Ser Asp Ser Ala Ser Thr Ser
        1715                1720                1725
Leu Ser Glu Ser Thr Ser Thr Ser Ile Ser Asp Ser Thr Ser Thr Ser
        1730                1735                1740
Thr Ser Asp Ser Ala Ser Thr Ser Met Ser Val Ser Asp Ser Asn Arg
1745                1750                1755                1760
Ala Ser Thr Ser Leu Ser Asp Ser Thr Ser Thr Ser Val Ser Asp Ser
            1765                1770                1775
Thr Ser Ala Ser Thr Ser Glu Ser Ala Ser Thr Ser Thr Arg Glu Ser
        1780                1785                1790
Glu Ser Thr Ser Ala Ser Thr Ser Leu Ser Glu Ser Thr Ser Thr Ser
        1795                1800                1805
Val Ser Asp Ser Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser
        1810                1815                1820
Thr Ser Glu Ser Asp Ser Asn Ser Glu Ser Thr Ser Leu Ser Glu Ser
1825                1830                1835                1840
Thr Ser Thr Ser Val Ser Asp Ser Thr Ser Ala Ser Thr Ser Ala Ser
            1845                1850                1855
Ala Ser Thr Ser Thr Ser Val Ser Asp Ser Asn Ser Ala Ser Thr Ser
        1860                1865                1870
Leu Ser Gly Ser Thr Ser Thr Ser Val Ser Asp Ser Thr Ser Thr Ser
        1875                1880                1885
Thr Ser Ala Ser Ala Ser Thr Ser Thr Ser Glu Ser Asp Ser Asp Ser
        1890                1895                1900
Ala Ser Thr Ser Leu Ser Gly Ser Thr Ser Thr Ser Ile Ser Asp Ser
1905                1910                1915                1920
```

```
Thr Ser Thr Ser Thr Ser Asp Ser Ala Ser Thr Ser Thr Ser Glu Ser
            1925                1930                1935
Ala Ser Thr Ser Thr Ser Val Ser Glu Ser Asp Ser Glu Ser Thr Ser
            1940                1945                1950
Val Ser Glu Ser Ser Ser Thr Ser Val Ser Asp Ser Thr Ser Thr Ser
            1955                1960                1965
Thr Ser Glu Ser Ala Ser Thr Ser Thr Ser Glu Ser Glu Ser Thr Ser
        1970                1975                1980
Glu Ser Thr Ser Val Ser Glu Ser Ser Ser Thr Ser Ile Ser Asp Ser
1985                1990                1995                2000
Ser Ser Thr Ser Thr Ser Met Ser Thr Ser Glu Thr Phe Thr Ser Gln
            2005                2010                2015
Ser Pro Ile Asn Ser Glu Ser Gln Phe Ile Gly Asp Ser Leu Ser Glu
            2020                2025                2030
Asp Thr Ile Val Thr Gln Ser Lys Asn Thr Asn Met Leu Asn Lys Thr
            2035                2040                2045
Gly Lys Asp Tyr Asp Leu Gln Glu Gln Arg Gly Tyr Thr Asp Ser Glu
        2050                2055                2060
Gln His Asn Glu Thr Gln Ser Asn Gln Ala Asp Asn His Ser Asn Asn
2065                2070                2075                2080
Leu Asp Leu Leu His Gln Asn Arg Leu Gln Asp Lys Val Val Lys Gln
            2085                2090                2095
Pro Thr Lys Gly Glu Asp Gly Val Val Ser Asn Gly Phe Ile Val Ala
            2100                2105                2110
Val Ala Ile Val Leu Ala Ile Phe Gly Leu Ala Lys Lys Ser Arg Lys
        2115                2120                2125
Asp Asp Asp Asp Gln Asp Gly Ser Lys
        2130                2135
```

<210> 4952
<211> 378
<212> PRT
<213> S.epidermidis

<400> 4952
```
Glu Arg Ser Gly Leu Leu Met His Asp Val Leu Ile Ile Gly Ser Gly
1               5                   10                  15
Val Ile Gly Met Ser Ile Ala Arg His Leu Ser Ala Thr His Leu Asp
            20                  25                  30
Val Ala Val Ile Asp Arg Asp Val Pro Gly Lys His Ala Ser Tyr Lys
        35                  40                  45
Ala Gly Gly Met Leu Gly Ala Gln Asn Glu Phe Thr Glu Asp Ser Asp
        50                  55                  60
Leu Phe Gln Leu Ala Ile Glu Ser Arg Ala Met Phe Pro Gln Leu Ser
65                  70                  75                  80
Lys Ser Leu Leu Asp Glu Thr Gly Ile Asp Ile Gln Phe Lys Asn Ser
                85                  90                  95
Gly Leu Ile Lys Ile Ala Asn Glu His Asp Asp Ile Ser Ser Ile Lys
            100                 105                 110
Arg Gln Tyr Gln Phe Leu Asn Ser Gln Asp Arg Ser Val Lys Gln Leu
        115                 120                 125
Ser Asp Asp Asp Leu Leu Gln Leu Thr His Gly Glu Val Lys Pro Ser
        130                 135                 140
Tyr Ala Ala Ile His Ile Pro His Asp Gly Gln Ile Asn Ala His His
145                 150                 155                 160
Tyr Thr Leu Ala Leu Leu Glu Ser Met Lys Leu Arg Asp Ile Lys Arg
```

```
                    165                 170                 175
Tyr Glu Ser Thr Glu Val Thr Ser Ile Glu Arg His Asn Gly Tyr Tyr
            180                 185                 190
Ser Val Lys Thr Asp Gln Ser Ser Thr Ile Glu Ala His Lys Ile Ile
        195                 200                 205
Val Ala Gly Gly Ala Trp Ser Ser Gln Leu Leu Thr Gln Tyr His Leu
    210                 215                 220
Gln Arg Gln Val Ile Gly Val Lys Gly Glu Val Ile Leu Leu Glu Asn
225                 230                 235                 240
Asn Asp Leu Ser Leu Thr Glu Thr Leu Phe Met Thr Asn Gly Cys Tyr
                245                 250                 255
Ile Val Pro Lys Gln Pro Asn Arg Phe Leu Ile Gly Ala Thr Ser Glu
            260                 265                 270
Phe Asn Asn Tyr Ser Val Gly Thr Thr Asp Glu Gly Met Asp Trp Leu
            275                 280                 285
Leu Arg His Ala Tyr His Arg Val Pro Gln Leu Lys Asp Ser His Ile
        290                 295                 300
Leu Lys Lys Trp Ser Gly Val Arg Pro Tyr Thr Glu Lys Glu Met Pro
305                 310                 315                 320
Val Met Asp Gln Ile Asp Asp Gly Leu Tyr Val Ile Ser Gly His Tyr
                325                 330                 335
Arg Asn Gly Ile Leu Leu Ser Pro Ile Ile Gly Arg Asp Ile Ala Asn
            340                 345                 350
Trp Leu Leu Ser Gly Ile Lys Pro Ser Arg Tyr Ser Ser Phe Thr Val
            355                 360                 365
Thr Arg Arg Asn Asn His Glu Val Tyr His
    370                 375
```

```
<210> 4953
<211> 276
<212> PRT
<213> S.epidermidis

<400> 4953
Gly Arg Gly Gly Leu Ser Met Asn Asn Thr Ile Ile Ser Met Lys Glu
1               5                   10                  15
Lys Glu Leu Arg Phe Leu Lys Phe Phe His Gln Gln Lys Tyr Asn Val
            20                  25                  30
Val Asp Phe Asn Leu Ile Glu Glu Leu Asp Trp Gln Arg Leu Thr His
        35                  40                  45
Glu Asp Leu Gln Gln Met Asp Glu Arg Ser Phe Trp Gln Gln Asn Lys
        50                  55                  60
Ser Ile Tyr Ala Leu Arg Asn Asp Phe Thr Asp Gln Leu Phe Arg Tyr
65                  70                  75                  80
Tyr Ser Asn Tyr Pro Thr His Phe Lys Lys Val Ala Tyr Ala Gly Asp
                85                  90                  95
Ile Ile Arg Asp Asn Arg Val Ile Lys Gln Val Gly Ile Glu Asn Tyr
            100                 105                 110
Glu Pro Gln Phe Asp Asn Ile Thr Gln Asn Phe Leu Asp Phe Gln Tyr
        115                 120                 125
Phe Ile Gln Asn Val Leu His Asp Asp Ile Gln Phe Ile Ile Leu Gly
    130                 135                 140
His Tyr Gln Leu Ile Asp Ala Leu Leu Glu Lys Asn His Gln Thr Arg
145                 150                 155                 160
Glu Val Met Glu Met Ile Glu Glu Arg Asn Leu Ser Gly Leu Ile Gln
                165                 170                 175
```

```
Thr Leu Thr Phe Asn His Pro Ile Ile Gln Ile Leu Lys Glu Asn Thr
            180                 185                 190
Leu Asn Gln Leu Lys Ile Leu Ser His Tyr Leu Pro Glu Arg His Pro
        195                 200                 205
Ala Met Val Ala Ile Gln Ser Trp Ser Gln Trp Phe Thr Asp His Gly
        210                 215                 220
Ile Thr Glu Ile His Leu Asp Val Thr Ala Gln Ala Pro Arg Ser Tyr
225                 230                 235                 240
Tyr Lys Gly Ile Phe Ile Lys Cys His Leu Lys Asn Thr Ala His Ser
            245                 250                 255
Val Leu Thr Gly Gly Tyr Tyr His Gly Ser Leu Glu Gly Phe Gly Leu
            260                 265                 270
Gly Leu Thr Leu
            275
```

<210> 4954
<211> 53
<212> PRT
<213> S.epidermidis

<400> 4954
```
Lys Tyr Ile Leu Asp Tyr Val Tyr Ile Asp Tyr Tyr Cys Cys Ser Thr
1               5                   10                  15
Ala Gln Met Thr Asn Leu Pro Lys Val Lys Ile Ile Leu Leu Leu Phe
            20                  25                  30
Tyr Val Ser Gln His Asn Ile Tyr Arg Met Thr Gln Asn Ile Cys Glu
            35                  40                  45
Ala Leu Leu Phe Glu
        50
```

<210> 4955
<211> 51
<212> PRT
<213> S.epidermidis

<400> 4955
```
Asn Asn Ser Gly Asn Ser Leu Ile Asn Leu Ile Lys Glu Leu Pro Leu
1               5                   10                  15
Leu Leu Cys Tyr Leu Ser Met Lys Asn Lys Gly Ile Gln Phe Ile Ser
            20                  25                  30
Leu Asp Glu Tyr Asp Asn Asp Tyr Phe Leu Tyr Leu Leu Ser Asn Ala
            35                  40                  45
Gly Gly Thr
        50
```

<210> 4956
<211> 527
<212> PRT
<213> S.epidermidis

<400> 4956
```
Ile Leu Val Gly Arg Arg Phe Trp Asn Met Lys Arg Phe Ile Pro Ala
1               5                   10                  15
Trp Tyr Ser Arg Asn Arg Trp Trp Glu Ser Thr Ser Arg Pro Phe Tyr
            20                  25                  30
Leu Lys Lys Gln Tyr Thr Asp Phe Asp Asp Met Ile Ser Leu Met Thr
```

```
          35                    40                    45
Met His Ser Ser Asn Asn Val Asp Tyr Gln Leu Ile Val Leu Asn Phe
    50                    55                    60
Ser Pro Tyr Leu Arg Thr Phe Leu His Arg Tyr Asp Leu Tyr Glu Ser
65                    70                    75                    80
His Tyr Trp Ser Val Phe Asp Glu Ile Gln Gly Val Gly His Gln Thr
                  85                    90                    95
Pro Gln Ala Ile Asp Tyr Arg Asp Leu Ser Trp Pro Glu Gly Thr Glu
              100                   105                   110
Phe Ile Phe Thr Pro Phe Gln Ile Gln Ala Ile Thr Gly Asp Asn Thr
              115                   120                   125
Phe Ser Lys Ile His Phe Ser Gln Glu Gly Tyr Leu Met Trp Val Glu
          130                   135                   140
Asp Tyr Lys Tyr Ser Thr Ile Gln Arg Arg Phe Val Phe Asp Asp Arg
145                   150                   155                   160
Gly Phe Ile Ser Ala Val Arg Thr Tyr Thr Pro Asp Gly Asp Asn Asn
                  165                   170                   175
Lys Lys His Tyr Phe Ser Lys Asp Gly Glu Glu Ile Phe Val Glu Asp
                  180                   185                   190
Leu Asn Val Asn Thr Val Thr Ile Asn Lys Asn Phe Gln Ser Lys Phe
              195                   200                   205
Lys Arg Val Thr Tyr Ser Ser Met Ala Glu Leu Ile Glu Glu Lys Phe
          210                   215                   220
Gln Ser Tyr Val Glu Arg Glu Leu Asn Glu Asp Asp Ser Val Ile Val
225                   230                   235                   240
Ala Ser Asp Glu Arg His Asn Ser Met Met Ala Arg Thr Ile Asp Ala
                  245                   250                   255
Ser Ser Leu Cys Phe Ser Ile Phe Thr Glu Arg Asn Lys Val Val Thr
              260                   265                   270
Gln Asp Leu Tyr Asp Ser Ile Ser Arg Ala Tyr Tyr Cys Leu Val Asp
          275                   280                   285
Thr Gln Ala Asn Gln Asn Met Ile Glu His Tyr Ala Gly Leu Asn Met
          290                   295                   300
Asn Asp Ile Asn Leu Leu Arg Val Thr Pro Phe Asp Ala Lys Ser Leu
305                   310                   315                   320
Pro Asn Gln Ser Ser Gln Leu Tyr Asp Thr Tyr Ile Gly Leu Trp Ile
              325                   330                   335
Asp Gly Leu Asp Glu Ile Glu Ile Arg Glu Ile Val Asn Ser Leu Phe
          340                   345                   350
Gln Tyr Ile Gln His Lys Asp Gly Tyr Lys Leu Lys Ile Leu Thr Lys
          355                   360                   365
Ser Arg Asp Asn Leu Thr Glu Asn Leu Ile Asp Glu Val Ala His Leu
          370                   375                   380
Asn Asp Leu Tyr His Gln Glu Lys Lys Glu Ile Ser Asp Val Ile Glu
385                   390                   395                   400
Asp Val Ile Gln Asn Lys Lys Glu Thr Ile Ile Asp Ile Glu Thr Val
                  405                   410                   415
Pro Phe Glu Glu Asp Leu Val Ser Val Ile Ser Lys Leu Arg Val Val
              420                   425                   430
Val Asp Leu Ser Leu Glu Pro Lys Leu Phe Leu Gln Ile Cys Cys Ile
          435                   440                   445
Gly Ala Gly Ile Pro Gln Ile Asn Lys Lys Arg Thr Asp Tyr Val Lys
          450                   455                   460
His Met His Asn Gly Tyr Ile Ile Asp Asp Ile Ser Gln Thr Val Glu
465                   470                   475                   480
Ser Leu Asp Tyr Phe Leu Ala His Leu Lys Asn Trp Asn Tyr Ser Tyr
```

```
                      485                   490                   495
Ala Tyr Ser Met Arg Leu Thr Asp Asp Phe Ser Ser Ile Asn Ile Ile
              500                   505                   510
His Gln Ile Asn Gln Leu Phe Lys Gly Asp Val Ser Ser Gly Thr
          515                   520                   525
```

<210> 4957
<211> 418
<212> PRT
<213> S.epidermidis

<400> 4957
```
Arg Lys Val Gly Glu Lys Met His Val Phe Asn Phe Leu Leu Phe Tyr
1               5                   10                  15
Pro Ile Phe Met Ser Ile Tyr Trp Ile Val Gly Ser Ile Tyr Tyr Phe
              20                  25                  30
Phe Ile Lys Glu Lys Pro Phe Asn Arg Ser Leu Leu Val Lys Ser Glu
          35                  40                  45
His Gln Gln Val Glu Gly Ile Ser Phe Leu Leu Ala Cys Tyr Asn Glu
      50                  55                  60
Ser Glu Thr Val Gln Asp Thr Leu Ser Ser Val Leu Ser Leu Glu Tyr
65                  70                  75                  80
Pro Glu Lys Glu Ile Ile Ile Ile Asn Asp Gly Ser Ser Asp Asn Thr
                  85                  90                  95
Ala Glu Ile Ile Tyr Asp Phe Lys Lys Asn His Asp Phe Lys Phe Val
              100                 105                 110
Asp Leu Glu Val Asn Arg Gly Lys Ala Asn Ala Leu Asn Glu Gly Ile
          115                 120                 125
Lys Gln Ala Ser Tyr Glu Tyr Val Met Cys Leu Asp Ala Asp Thr Val
          130                 135                 140
Ile Asp Asp Asp Ala Pro Phe Tyr Met Ile Glu Asp Phe Lys Lys Asn
145                 150                 155                 160
Pro Lys Leu Gly Ala Val Thr Gly Asn Pro Arg Ile Arg Asn Lys Ser
                  165                 170                 175
Ser Ile Leu Gly Lys Ile Gln Thr Ile Glu Tyr Ala Ser Ile Ile Gly
              180                 185                 190
Cys Ile Lys Arg Ser Gln Ser Leu Ala Gly Ala Ile Asn Thr Ile Ser
          195                 200                 205
Gly Val Phe Thr Leu Phe Lys Lys Ser Ala Leu Lys Asp Val Gly Tyr
      210                 215                 220
Trp Asp Thr Asp Met Ile Thr Glu Asp Ile Ala Val Ser Trp Lys Leu
225                 230                 235                 240
His Leu Phe Asp Tyr Glu Ile Lys Tyr Glu Pro Arg Ala Leu Cys Trp
                  245                 250                 255
Met Leu Val Pro Glu Thr Ile Gly Gly Leu Trp Lys Gln Arg Val Arg
              260                 265                 270
Trp Ala Gln Gly Gly His Glu Val Leu Leu Arg Asp Phe Trp Pro Thr
          275                 280                 285
Ile Lys Thr Lys Lys Leu Ser Leu Tyr Ile Leu Met Phe Glu Gln Ile
          290                 295                 300
Ala Ser Ile Thr Trp Val Tyr Ile Val Leu Cys Tyr Leu Ser Phe Leu
305                 310                 315                 320
Val Ile Thr Ala Asn Ile Leu Asp Tyr Thr Tyr Leu Lys Tyr Ser Phe
              325                 330                 335
Ser Ile Phe Phe Phe Ser Ser Phe Thr Met Thr Phe Ile Asn Ile Ile
              340                 345                 350
```

Gln Phe Thr Val Ala Leu Phe Ile Asp Ser Arg Tyr Glu Lys Lys Asn
    355   360   365
Ile Val Gly Leu Ile Phe Leu Ser Trp Tyr Pro Thr Leu Tyr Trp Val
    370   375   380
Ile Asn Ala Ala Val Val Ile Met Ala Phe Pro Lys Ala Leu Lys Arg
385   390   395   400
Lys Lys Gly Gly Tyr Ala Thr Trp Ser Ser Pro Asp Arg Gly Asn Ile
           405   410   415
Gln Arg

<210> 4958
<211> 295
<212> PRT
<213> S.epidermidis

<400> 4958
Ile Gly Lys Gly Val Tyr Arg Leu Lys Lys Ile Lys Lys Ala Ile Ile
1   5   10   15
Pro Ala Ala Gly Leu Gly Thr Arg Phe Leu Pro Ala Thr Lys Ala Met
    20   25   30
Pro Lys Glu Met Leu Pro Ile Leu Asp Lys Pro Thr Ile Gln Tyr Ile
      35   40   45
Val Glu Glu Ala Ser Lys Ala Gly Ile Glu Asp Ile Ile Ile Val Thr
      50   55   60
Gly Lys His Lys Arg Ala Ile Glu Asp His Phe Asp Asn Gln Lys Glu
65   70   75   80
Leu Glu Met Val Leu Glu Asn Lys Gly Lys Ala Asp Leu Leu Glu Lys
           85   90   95
Val Gln Tyr Ser Thr Asp Leu Ala Asn Ile Phe Tyr Val Arg Gln Lys
          100   105   110
Glu Gln Lys Gly Leu Gly His Ala Ile His Thr Ala Lys Gln Phe Ile
          115   120   125
Gly Asn Glu Pro Phe Ala Val Leu Leu Gly Asp Asp Ile Val Glu Ser
      130   135 .   140
Asp Thr Pro Ala Ile Lys Gln Leu Met Asp Val Tyr Glu Glu Thr Gly
145   150   155   160
His Ser Val Ile Gly Val Gln Glu Val Pro Glu Ser Asp Thr His Arg
          165   170   175
Tyr Gly Val Ile Asp Pro Ser Ala Lys Gly Gly Ser Arg Tyr Glu Val
          180   185   190
Arg Gln Phe Val Glu Lys Pro Lys Gln Gly Thr Ala Pro Ser Asn Leu
          195   200   205
Ala Ile Met Gly Arg Tyr Val Leu Thr Pro Glu Ile Phe Asp Tyr Leu
      210   215   220
Glu Thr Gln Gln Glu Gly Ala Gly Asn Glu Ile Gln Leu Thr Asp Ala
225   230   235   240
Ile Glu Arg Met Asn Ser Lys Gln Lys Val Tyr Ala Tyr Asp Phe Glu
          245   250   255
Gly Asn Arg Tyr Asp Val Gly Glu Lys Leu Gly Phe Val Lys Thr Thr
          260   265   270
Ile Glu Tyr Ala Leu Lys Asp Pro Glu Met Ser His Asp Leu Lys Ala
          275   280   285
Phe Ile Lys Gln Leu Asp Ile
    290   295

```
<210> 4959
<211> 232
<212> PRT
<213> S.epidermidis

<400> 4959
Val Met Lys Gly Asn Leu Leu His Ser Ile Ile Glu Tyr Tyr Ser Leu
1               5                   10                  15
Asn Trp Ala Phe Leu Leu Glu Leu Phe Phe Lys His Leu Leu Met Ser
            20                  25                  30
Val Tyr Gly Val Leu Phe Ala Cys Ile Ile Gly Ile Pro Ile Gly Ile
        35                  40                  45
Phe Ile Ala Lys Tyr Lys Arg Leu Ser Trp Pro Val Ile Thr Ile Ala
        50                  55                  60
Asn Ile Ile Gln Thr Val Pro Ala Ile Ala Met Leu Ala Ile Leu Met
65                  70                  75                  80
Leu Ala Met Gly Leu Gly Pro Thr Thr Val Val Val Thr Val Phe Leu
                85                  90                  95
Tyr Ser Leu Leu Pro Ile Ile Lys Asn Thr Tyr Thr Gly Ile Val Glu
            100                 105                 110
Val Asp Glu Asn Ile Lys Asp Ala Gly Lys Gly Met Gly Met Thr Gly
        115                 120                 125
Asn Gln Ile Leu Arg Met Ile Glu Leu Pro Leu Ser Leu Ser Val Ile
        130                 135                 140
Ile Gly Gly Val Arg Ile Ala Leu Val Val Ala Ile Gly Ile Val Ala
145                 150                 155                 160
Ile Gly Ser Phe Ile Gly Ala Pro Thr Leu Gly Asp Ile Ile Ile Arg
                165                 170                 175
Gly Thr Asn Ser Thr Asp Gly Thr Thr Phe Ile Leu Ala Gly Ala Ile
                180                 185                 190
Pro Ile Ala Leu Ile Ala Ile Ile Ile Asp Ile Gly Leu Arg Tyr Leu
        195                 200                 205
Glu Lys Arg Leu Asp Pro Thr Arg Lys Asn Lys Lys Asp Ser Met Gln
        210                 215                 220
Lys His Gln Val Gln Lys Leu His
225                 230

<210> 4960
<211> 43
<212> PRT
<213> S.epidermidis

<400> 4960
Tyr Cys Glu Gly Tyr Gln Ile Ile Asp Asp Ile Val Arg Gln Asn Glu
1               5                   10                  15
Gln Ser Asn Gln Val Asp Asn Met Glu Pro Asp Thr Ser Ile Ile Gly
            20                  25                  30
Thr Gly Ser Phe Leu Ile Leu Ile Val Ile Glu
            35                  40

<210> 4961
<211> 226
<212> PRT
<213> S.epidermidis

<400> 4961
```

```
Arg Glu Glu Gly Met Ile Met Asn Gln Met Asn Gln Thr Ile Ile Asp
1               5                   10                  15
Ala Phe His Phe Arg His Ala Thr Lys Glu Phe Asp Pro Thr Lys Lys
            20                  25                  30
Ile Ser Asp Glu Asp Phe Asn Thr Ile Leu Glu Thr Gly Arg Leu Ser
        35                  40                  45
Pro Ser Ser Leu Gly Leu Glu Pro Trp His Phe Val Val Val Gln Asn
    50                  55                  60
Lys Glu Leu Arg Glu Lys Leu Lys Ala Tyr Ser Trp Gly Ala Gln Lys
65                  70                  75                  80
Gln Leu Asp Thr Ala Ser His Phe Val Leu Ile Phe Ala Arg Lys Asn
            85                  90                  95
Val Thr Ala His Thr Asp Tyr Val Gln His Leu Leu Arg Gly Val Lys
            100                 105                 110
Lys Tyr Glu Glu Ser Thr Ile Pro Ala Val Glu Asn Lys Phe Asp Asp
        115                 120                 125
Phe Gln Glu Ser Phe His Ile Ala Asp Asn Glu Arg Thr Leu Tyr Asp
    130                 135                 140
Trp Ala Ser Lys Gln Thr Tyr Ile Ala Leu Ala Asn Met Met Thr Ser
145                 150                 155                 160
Ala Ala Leu Leu Gly Ile Asp Ser Cys Pro Ile Glu Gly Phe Asp Leu
            165                 170                 175
Asp Lys Val Thr Glu Ile Leu Ser Asp Glu Gly Val Leu Asp Thr Glu
            180                 185                 190
Gln Phe Gly Ile Ser Val Met Val Gly Phe Gly Tyr Arg Ala Gln Glu
        195                 200                 205
Pro Lys His Gly Lys Val Arg Gln Asn Glu Asp Asp Ile Ile Ser Trp
    210                 215                 220
Ile Glu
225


<210> 4962
<211> 259
<212> PRT
<213> S.epidermidis


<400> 4962
Tyr Ser Arg Gly Val Thr Tyr Met Ala Leu Ile Thr Met Asn Tyr Asn
1               5                   10                  15
Ser Pro Thr Ile Gly Met His Gln Asn Leu Thr Ile Ile Leu Pro Glu
            20                  25                  30
Asp Val Thr Phe Phe Gly Ser Ser Thr Thr Ala Lys His Leu Lys Ser
        35                  40                  45
Met Leu Leu Leu His Gly Leu Ser Ser Asp Glu Thr Thr Tyr Ile Arg
    50                  55                  60
Tyr Thr Ser Ile Glu Arg Tyr Ala Asn Glu His Gln Leu Ala Ile Ile
65                  70                  75                  80
Met Pro Asn Val Asp His Ser Gly Tyr Ala Asn Met Val Tyr Gly His
            85                  90                  95
Ser Tyr Tyr Asp Tyr Ile Leu Glu Ile Tyr Glu Tyr Val His Gln Ile
            100                 105                 110
Leu Pro Leu Ser Arg Lys Arg Glu Asp Asn Phe Ile Ala Gly His Ser
        115                 120                 125
Met Gly Gly Tyr Gly Thr Ile Lys Phe Ala Leu Thr Gln Ser Asp Lys
    130                 135                 140
Phe Ala Lys Ala Ala Pro Leu Ser Ala Val Phe Glu Ala Gln Arg Phe
```

```
145                    150                    155                    160
Ile Asp Leu Asp Trp Thr Asp Phe Ser Pro Gln Ser Ile Thr Gly Asn
                165                    170                    175
Asn Thr Gln Ile Lys Gly Thr Glu Leu Asp Thr Tyr Tyr Leu Leu Asp
            180                    185                    190
Gln Ala Ile Asp Ala Asn Val Asp Ile Pro Glu Leu Phe Ile Met Cys
        195                    200                    205
Gly Lys Glu Asp Phe Leu Tyr His Asp Asn Leu Gln Phe Ile Glu Thr
    210                    215                    220
Leu Asn Lys Lys Gly Val Ser Tyr Lys Phe Glu Asp Gly Pro Gly Asp
225                    230                    235                    240
His Asp Tyr Ala Tyr Trp Asp Arg Ala Ile Lys Arg Ala Ile Lys Trp
                245                    250                    255
Phe Val Gln
```

<210> 4963
<211> 332
<212> PRT
<213> S.epidermidis

<400> 4963
```
Ile Lys Arg Gly Ile Gln Ser Met Ala Asn Gln Lys Leu Pro Thr Leu
1                   5                     10                     15
Lys Tyr Thr Gly Lys Ser Glu Ser Ala Val Pro Ile Val Ser Glu Ser
            20                    25                    30
Glu Leu Gln Thr Val Thr Ala Glu Pro Trp Val Lys Ile Ser Asp Lys
        35                    40                    45
Gly Leu Gln Leu Glu Gly Leu Asn Phe Asn Arg Glu Gly Gln Leu Phe
    50                    55                    60
Leu Leu Asp Val Phe Glu Gly Asn Ile Phe Lys Val Asn Pro Ala Thr
65                    70                    75                    80
Lys Glu Val Thr Thr Lys Phe Gln Ser Val Lys Asp Asn Pro Ala Ala
                85                    90                    95
Ile Lys Val His Lys Asp Gly Arg Leu Phe Ile Cys Tyr Leu Gly Asp
            100                   105                   110
Phe Lys Thr Thr Gly Gly Ile Phe Ala Thr Thr Glu Lys Gly Glu Gln
        115                   120                   125
Ile Glu Glu Ile Ile Ser Asp Leu Asn Thr Glu Tyr Cys Ile Asp Asp
    130                   135                   140
Met Val Phe Asp Ser Lys Gly Gly Phe Tyr Phe Thr Asp Phe Arg Gly
145                   150                   155                   160
Tyr Ser Thr Gln Pro Leu Gly Gly Val Tyr Tyr Val Asp Pro Asp Phe
                165                   170                   175
Lys Thr Val Thr Pro Ile Ile Gln Asn Ile Ser Val Ala Asn Gly Ile
            180                   185                   190
Ala Leu Ser Thr Asp Glu Lys Val Leu Trp Val Thr Glu Thr Thr Thr
        195                   200                   205
Asn Arg Leu His Arg Ile Ala Leu Glu Asp Asp Gly Val Thr Ile Ala
    210                   215                   220
Pro Phe Gly Ala Thr Ile Pro Tyr Tyr Phe Thr Gly His Glu Gly Pro
225                   230                   235                   240
Asp Ser Cys Cys Ile Asp Ser Asn Asp Asn Leu Tyr Val Ala Met Tyr
                245                   250                   255
Gly Gln Gly Arg Val Leu Val Phe Asn Lys Arg Gly Tyr Pro Ile Gly
            260                   265                   270
```

```
Gln Ile Leu Met Pro Gly Arg Asp Asp Gly Lys Met Leu Arg Thr Thr
        275                 280                 285
His Pro Gln Phe Ile Pro Gly Thr Asn Gln Leu Ile Ile Cys Thr Asn
        290                 295                 300
Asp Ile Glu Asn His Ser Glu Gly Gly Ser Met Leu Tyr Thr Val Asn
305                 310                 315                 320
Gly Phe Ala Lys Gly Tyr Glu Ser Tyr Gln Phe Gln
                325                 330
```

<210> 4964
<211> 513
<212> PRT
<213> S.epidermidis

<400> 4964
```
Phe Ile Gly Gly Asn Lys Met Lys Asn Phe Ser Lys Phe Ala Leu Thr
1               5                   10                  15
Ser Ile Ala Ala Leu Thr Val Ala Ser Pro Leu Val Asn Thr Glu Val
                20                  25                  30
Asp Ala Lys Asp Lys Val Ser Ala Thr Gln Asn Ile Asp Ala Lys Val
        35                  40                  45
Thr Gln Glu Ser Gln Ala Thr Asp Ala Leu Lys Glu Leu Pro Lys Ser
        50                  55                  60
Glu Asn Ile Lys Lys His Tyr Lys Asp Tyr Lys Val Thr Asp Thr Glu
65                  70                  75                  80
Lys Asp Asn Lys Gly Phe Thr His Tyr Thr Leu Gln Pro Lys Val Gly
                85                  90                  95
Asn Thr Tyr Ala Pro Asp Lys Glu Val Lys Val His Thr Asn Lys Glu
                100                 105                 110
Gly Lys Val Val Leu Val Asn Gly Asp Thr Asp Ala Lys Lys Val Gln
        115                 120                 125
Pro Thr Asn Lys Val Ser Ile Ser Lys Glu Ser Ala Thr Asp Lys Ala
        130                 135                 140
Phe Glu Ala Ile Lys Ile Asp Arg Gln Lys Ala Lys Asn Leu Lys Ser
145                 150                 155                 160
Asp Val Ile Lys Thr Asn Lys Val Glu Ile Asp Gly Glu Lys Asn Lys
                165                 170                 175
Tyr Val Tyr Asn Ile Glu Ile Ile Thr Thr Ser Pro Lys Ile Ser His
                180                 185                 190
Trp Asn Val Lys Ile Asp Ala Glu Thr Gly Gln Val Val Asp Lys Leu
        195                 200                 205
Asn Met Ile Lys Glu Ala Ala Thr Thr Gly Thr Gly Lys Gly Val Leu
        210                 215                 220
Gly Asp Thr Lys Gln Ile Asn Ile Asn Ser Val Ser Gly Gly Tyr Ala
225                 230                 235                 240
Leu Gln Asp Leu Thr Gln Gln Gly Thr Leu Ser Ala Tyr Asn Tyr Asp
                245                 250                 255
Ala Asn Thr Gly Gln Ala Tyr Leu Met Gln Asp Lys Asp Arg Asn Phe
        260                 265                 270
Asp Asp Asp Glu Gln Arg Ala Gly Val Asp Ala Asn Tyr Tyr Ala Lys
        275                 280                 285
Glu Thr Tyr Asp Tyr Tyr Lys Asn Thr Phe Gly Arg Glu Ser Tyr Asp
        290                 295                 300
Asn Gln Gly Ser Pro Ile Ile Ser Leu Ala His Val Asn Asn Phe Gln
305                 310                 315                 320
Gly Gln Asp Asn Arg Asn Asn Ala Ala Trp Ile Gly Asp Lys Met Ile
```

```
                325                 330                 335
Tyr Gly Asp Gly Asp Gly Arg Thr Phe Thr Ala Leu Ser Gly Ala Asn
            340                 345                 350
Asp Val Val Ala His Glu Ile Thr His Gly Val Thr Gln Gln Thr Ala
            355                 360                 365
Asn Leu Val Tyr Arg Ser Gln Ser Gly Ala Leu Asn Glu Ser Phe Ser
        370                 375                 380
Asp Val Phe Gly Tyr Phe Val Asp Asp Glu Asp Phe Leu Met Gly Glu
385                 390                 395                 400
Asp Val Tyr Thr Pro Gly Val Gly Gly Asp Ala Leu Arg Ser Met Ser
                405                 410                 415
Asn Pro Glu Arg Phe Gly Gln Pro Ser His Met Asn Asp Phe Val Tyr
            420                 425                 430
Thr Asn Ser Asp Asn Gly Gly Val His Thr Asn Ser Gly Ile Pro Asn
            435                 440                 445
Lys Ala Ala Tyr Asn Thr Ile Arg Ser Ile Gly Lys Gln Arg Ser Glu
        450                 455                 460
Gln Ile Tyr Tyr Arg Ala Leu Thr Val Tyr Leu Thr Ser Asn Ser Asp
465                 470                 475                 480
Phe Gln Asp Ala Lys Ala Ser Leu Gln Gln Ala Ala Leu Asp Leu Tyr
            485                 490                 495
Gly Asp Gly Ile Ala Gln Gln Val Gly Gln Ala Trp Asp Ser Val Gly
            500                 505                 510
Val
```

```
<210> 4965
<211> 258
<212> PRT
<213> S.epidermidis

<400> 4965
Ile Leu Gly Gly Ile Ile Leu Ile Lys Lys Arg Val Ile Pro Cys Leu
1               5                   10                  15
Asp Val Lys Asp Gly Arg Val Val Lys Gly Ile Gln Phe Gln Ser Leu
            20                  25                  30
Arg Asp Ile Gly Asn Pro Val Asp Leu Ala Leu Tyr Tyr Asn Glu Ala
        35                  40                  45
Gly Ala Asp Glu Leu Val Phe Leu Asp Ile Ser Lys Thr Glu Ala Gly
    50                  55                  60
His Asp Leu Met Ile Glu Val Ile Glu Ala Thr Ala Lys Gln Leu Phe
65                  70                  75                  80
Ile Pro Leu Thr Val Gly Gly Gly Ile Gln Asn Leu Asp Asp Ile Thr
                85                  90                  95
Gln Leu Leu Asn His Gly Ala Asp Lys Ile Ser Leu Asn Ser Ser Ala
            100                 105                 110
Leu Lys His Pro Glu Leu Ile Arg Gln Ala Ser Glu Lys Phe Gly Arg
        115                 120                 125
Gln Cys Ile Cys Ile Ala Ile Asp Ser Phe Tyr Asp Lys Asp Arg Glu
    130                 135                 140
Asp Tyr Phe Cys Thr Thr His Gly Gly Lys Lys Leu Thr Asp Val Ser
145                 150                 155                 160
Val Tyr Asp Trp Val Gln Glu Val Glu His Leu Gly Ala Gly Glu Leu
                165                 170                 175
Leu Ile Thr Ser Met His His Asp Gly Met Lys Gln Gly Phe Asp Ile
            180                 185                 190
```

```
Glu His Leu Ala Lys Ile Lys Gln Leu Val Asn Ile Pro Ile Ile Ala
        195                 200                 205
Ser Gly Gly Gly Gly Asn Ala Gln His Phe Val Glu Leu Phe Gln Gln
        210                 215                 220
Thr Asp Val Ser Ala Gly Leu Ala Ala Ser Ile Leu His Asp Gln Glu
225                 230                 235                 240
Thr Thr Val Ala Glu Ile Lys Asp Lys Met Arg Glu Gly Gly Ile Leu
                245                 250                 255
Val Arg
```

<210> 4966
<211> 256
<212> PRT
<213> S.epidermidis

<400> 4966
```
Leu Ser Met Gly Trp Asn Glu Ser His Phe Leu Ile Ile Tyr Ile Glu
1               5                   10                  15
Gly Gly Leu Met Val Ser Ser Glu Tyr Lys Lys Gly Ile Phe Leu Ala
        20                  25                  30
Leu Gly Ala Tyr Ile Leu Trp Gly Ile Leu Pro Ile Tyr Trp Arg Leu
        35                  40                  45
Ile Asp Glu Ile Gly Ala Phe Glu Ile Leu Ala Phe Arg Ile Ile Phe
        50                  55                  60
Ser Val Ile Phe Met Ile Phe Val Leu Ile Ile Gly Lys Asn Gln Arg
65                  70                  75                  80
Asn Ala Phe Leu Arg Asp Val Asn Gln Leu Val Ser His Pro Val Gln
                85                  90                  95
Leu Ile Ala Ile Ile Val Ala Gly Tyr Val Ile Thr Val Asn Trp Gly
        100                 105                 110
Thr Phe Ile Trp Ala Val Ser Asn Gly His Val Leu Gln Ser Ser Leu
        115                 120                 125
Gly Tyr Tyr Ile Asn Pro Leu Val Ser Ile Val Leu Ala Leu Ile Phe
        130                 135                 140
Leu Lys Glu Arg Phe Asn Lys Phe Glu Trp Leu Ala Ile Ile Phe Ala
145                 150                 155                 160
Leu Ile Gly Val Leu Tyr Met Thr Ile Lys Ile Gly Glu Phe Pro Phe
                165                 170                 175
Ile Ser Leu Leu Leu Ala Phe Ser Phe Gly Ile Tyr Gly Leu Leu Lys
        180                 185                 190
Lys Ile Val His Ile Asp Ala Ile Ser Ser Ile Thr Ile Arg Met Tyr
        195                 200                 205
Cys Tyr Cys Thr Ser Arg Phe Asn Leu Cys Tyr Leu Pro Met Ala Ala
        210                 215                 220
Thr Thr His Asn Ile Trp Ile Lys Tyr Ile Ile Ile Leu Ala Thr Ile
225                 230                 235                 240
Phe Arg Cys Asn Tyr Ser Asn Thr Ile Asp Ser Val Leu Ser Arg Cys
                245                 250                 255
```

<210> 4967
<211> 266
<212> PRT
<213> S.epidermidis

<400> 4967

Thr Arg Gly Gly Val Val His Met Gly Lys Val Tyr Leu Val Gly Ala
1   5   10   15
Gly Pro Gly Asp Pro Glu Leu Ile Thr Leu Lys Gly Leu Lys Ala Ile
            20   25   30
Lys Glu Ala Asp Val Ile Leu Tyr Asp Arg Leu Val Asn Lys Glu Ile
        35   40   45
Leu Asn Tyr Ala Ser Pro Ser Thr Lys Phe Phe Tyr Cys Gly Lys Asp
    50   55   60
Pro His Arg His Ser Leu Pro Gln Glu Glu Thr Asn Lys Met Met Val
65   70   75   80
Thr Leu Ala Lys Lys Gly His Ile Val Thr Arg Leu Lys Gly Gly Asp
                85   90   95
Pro Phe Val Phe Gly Arg Gly Gly Glu Glu Ala Glu Glu Leu Ala Cys
            100   105   110
His Asn Ile His Phe Glu Ile Ile Pro Gly Ile Thr Ser Gly Ile Ala
            115   120   125
Ala Pro Ala Tyr Ala Gly Ile Pro Val Thr His Arg Asp Tyr Ser Ser
    130   135   140
Ser Val Ala Phe Val Thr Ala Val Asn Lys Pro Gly Met Asp Lys Gly
145   150   155   160
Lys Tyr Trp Gln His Leu Ala Asn Gly Pro Glu Thr Leu Cys Ile Tyr
                165   170   175
Met Gly Val Lys Arg Leu Ser Glu Ile Cys Glu Leu Leu Ile Gln Tyr
            180   185   190
Gly Arg Ser Ser Glu Thr Pro Val Ala Leu Val His Met Gly Thr Ser
        195   200   205
Lys Gln Gln Met Thr Val Thr Gly Thr Leu Asp Thr Ile Gln Glu Arg
        210   215   220
Ala His His Ile Gln Asn Pro Ala Met Ile Ile Val Gly Glu Val Val
225   230   235   240
Lys Met Arg Glu Lys Ile Asn Trp Phe Val Glu Gln Ala Thr Val Gln
                245   250   255
Asn Glu Thr Leu Thr Glu Met Ser Ser Thr
            260   265

<210> 4968
<211> 48
<212> PRT
<213> S.epidermidis

<400> 4968
Leu Gln Ile Phe Ile Leu Ser His Leu His Leu Pro Pro Leu Phe Phe
1   5   10   15
Ala Asn Ile Ser Met Asn Tyr Gln Phe His Asn Asp Asn Val Phe Leu
            20   25   30
Phe Leu His Phe Leu Tyr Ser Ser Ser Asn Tyr Phe Ile Arg Tyr Ala
        35   40   45

<210> 4969
<211> 354
<212> PRT
<213> S.epidermidis

<400> 4969
Gly Val Phe Ile Met Lys Ala Ala Val Trp Tyr Gly Gln Lys Asp Val
1   5   10   15

```
Arg Val Glu Asp Arg Glu Pro Lys Ala Ile Lys Asp Asn Glu Val Gln
            20                  25                  30
Val Lys Val Ser Trp Ala Gly Ile Cys Gly Thr Asp Leu His Glu Tyr
            35                  40                  45
Leu Glu Gly Pro Ile Phe Ile Ser Thr Asp Gln Pro Asp Pro Leu Leu
        50                  55                  60
Gly Gln Thr Ala Pro Val Thr Leu Gly His Glu Phe Ser Gly Val Val
65                  70                  75                  80
Glu Asn Val Gly Lys Asn Val Ser Arg Phe Lys Lys Gly Asp Arg Val
                85                  90                  95
Val Val Asn Pro Thr Val Ser Lys Arg Glu Lys Pro Glu Asn Val Asp
            100                 105                 110
Leu Tyr Asp Gly Tyr Ser Phe Ile Gly Leu Gly Ser Asp Gly Ala Phe
        115                 120                 125
Ala Glu Phe Thr Asn Ala Pro Glu Thr Asn Val Tyr His Leu Pro Asp
        130                 135                 140
Asn Val Ser Ala Arg Glu Gly Ala Leu Val Glu Pro Thr Ala Val, Ala
145                 150                 155                 160
Val Gln Ala Val Lys Glu Gly Glu Leu Leu Phe Gly Asp Thr Val Ala
                165                 170                 175
Val Phe Gly Ala Gly Pro Ile Gly Leu Leu Thr Ile Val Ala Ala Lys
            180                 185                 190
Ala Ala Gly Ala Ser Lys Ile Phe Val Phe Asp Leu Ser Glu Glu Arg
            195                 200                 205
Leu Ala Lys Ala Lys Ser Val Gly Ala Thr His Val Tyr Asn Ser Gly
        210                 215                 220
Asn Val Asp Pro Val Gln Thr Val Tyr Glu His Thr Asp Asn Gly Val
225                 230                 235                 240
Asp Val Ser Phe Glu Val Ala Gly Val Gly Ile Thr Leu Gln Gln Ser
                245                 250                 255
Ile Glu Val Thr Arg Pro Arg Gly Thr Ala Val Ile Val Ser Ile Phe
            260                 265                 270
Gly His Pro Val Glu Phe Asn Pro Leu Leu Gln Met Asn Lys Gly Val
        275                 280                 285
Lys Leu Thr Thr Thr Ile Ala Tyr Thr Pro Thr Thr Phe Gln Gln Thr
        290                 295                 300
Ile Asp Leu Ile Ala Asn Gly Ser Leu Asn Val Lys Asp Val Val Thr
305                 310                 315                 320
Asp Gln Ile Glu Leu Asp Asn Ile Val Glu Ser Gly Phe Asn Gln Leu
                325                 330                 335
Val Asn Asp Lys Ser Gln Ala Lys Ile Leu Val Arg Leu Asn Gly Asp
            340                 345                 350
Gln Lys
```

<210> 4970
<211> 131
<212> PRT
<213> S.epidermidis

<400> 4970
```
Leu Phe Phe Ile Lys Glu Gly Cys Leu Leu Met Ser Gln Ile Glu Phe
1               5                   10                  15
Lys Asp Val Ser Lys Val Tyr Pro Asn Gly His Val Gly Leu Lys Asp
            20                  25                  30
Ile Asn Leu Asn Ile Glu Lys Gly Asp Phe Ala Val Ile Val Gly Leu
```

```
          35                    40                    45
Ser Gly Ala Gly Lys Ser Thr Leu Leu Arg Ser Val Asn Arg Leu His
     50                    55                    60
Asp Ile Ser Lys Gly Asp Ile Thr Ile Glu Gly Gln Ser Ile Thr Lys
65                    70                    75                    80
Ala Arg Gly Lys Lys Leu Leu Glu Met Arg Arg Ser Ile Gly Met Ile
                    85                    90                    95
Phe Gln His Phe Asn Leu Val Lys Arg Ser Thr Val Leu Arg Asn Val
                    100                   105                   110
Leu Ser Gly Gln Gly Arg Ile Pro Ser Tyr Leu Glu Asn Asp Thr Gly
               115                   120                   125
Ser Phe Ser
     130
```

<210> 4971
<211> 77
<212> PRT
<213> S.epidermidis

<400> 4971

```
Leu Tyr Phe Ile Ile Leu Leu Leu Lys Ile Ile Arg Ile Phe Met Ser
1              5                    10                    15
Phe Val Thr Lys Tyr Val Asn Ile His Ser Asn Leu Lys Leu Ile Tyr
          20                    25                    30
Leu Phe Asn Tyr His Phe Ile Tyr Ile Ser Phe Leu Leu Leu Val Gly
          35                    40                    45
Phe Ile Ser Leu Leu Leu Cys Gly His Thr Tyr Ala Arg Gln Thr Val
     50                    55                    60
Ala Leu Pro Gln Gly Ala Ile Arg Ser Phe Val Phe Phe
65                    70                    75
```

<210> 4972
<211> 296
<212> PRT
<213> S.epidermidis

<400> 4972

```
Arg Cys Leu Met Asp Phe Ile Ala Ile Leu Ile Gly Leu Gly Pro Leu
1              5                    10                    15
Leu Gly Trp Gly Leu Phe Pro Thr Ile Ala Ser Lys Phe Gly Gly Arg
          20                    25                    30
Pro Val Asn Gln Ile Phe Gly Ala Thr Val Gly Thr Leu Ile Phe Ala
          35                    40                    45
Ile Val Leu Ala Leu Phe Lys Gly Ile Gly Leu Pro Gly Gly Met Ala
          50                    55                    60
Leu Val Phe Ser Leu Ile Ser Gly Ala Gly Trp Ala Phe Gly Gln Ile
65                    70                    75                    80
Ile Thr Phe Lys Ala Phe Glu Leu Val Gly Ser Ser Arg Ala Met Pro
                    85                    90                    95
Ile Thr Thr Ala Phe Gln Leu Leu Gly Ala Ser Leu Trp Gly Val Phe
                    100                   105                   110
Ala Leu Gly Asn Trp Pro Gly Ile Thr Asn Lys Ile Ile Gly Phe Leu
               115                   120                   125
Ala Leu Leu Val Ile Leu Ile Gly Ala Arg Met Thr Val Trp Thr Glu
          130                   135                   140
Thr Lys Gln Gln Glu Tyr Ser Lys Asn Leu Arg Ser Ala Val Ile Leu
```

```
        145                 150                 155                 160
Leu Leu Val Gly Glu Ile Gly Tyr Trp Ile Tyr Ser Ala Ala Pro Gln
                     165                 170                 175
Ala Thr Asp Ile Gly Gly Phe Lys Ala Phe Leu Pro Gln Ala Ile Gly
                 180                 185                 190
Met Val Ile Val Ala Val Ile Tyr Ala Leu Met Asn Met Ser Lys Gly
             195                 200                 205
Asn Ala Phe Lys Glu Lys Val Ser Trp Gln Gln Ile Ile Ser Gly Phe
         210                 215                 220
Phe Phe Ala Phe Ala Ala Leu Thr Tyr Leu Ile Ser Ala Gln Pro Asn
225                 230                 235                 240
Met Asn Gly Leu Ala Thr Gly Phe Val Leu Ser Gln Thr Ser Val Val
                 245                 250                 255
Leu Ala Thr Leu Thr Gly Ile Phe Phe Leu Asn Gln Lys Lys Thr Ser
             260                 265                 270
Lys Glu Leu Met Ile Thr Ile Val Gly Leu Val Leu Ile Leu Val Ala
         275                 280                 285
Ala Ser Ile Thr Val Phe Ile Lys
290                 295
```

```
<210> 4973
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4973
Asn Leu Leu Ile Tyr Lys Glu Ser Ile Leu Val Leu Val Ala Glu Arg
1               5                   10                  15
Thr Thr Asn Ala Val Ser Leu Phe Leu Ile Ile Leu Leu Asp Leu Asp
             20                 25                  30
Tyr Ile Pro Gln Ala Asp Lys Pro Cys Ala Leu Tyr Ala Leu
         35                 40                  45
```

```
<210> 4974
<211> 40
<212> PRT
<213> S.epidermidis

<400> 4974
Arg Ile Leu Ile Tyr Met Glu Leu Ile Ile Ser Tyr Leu Ser Glu Ile
1               5                   10                  15
Thr Phe Tyr Leu Asn Val Val Ser Leu Phe Phe Thr Gln Thr Ile Ile
             20                 25                  30
Thr Ile Lys Ile Cys Ile Phe His
         35                 40
```

```
<210> 4975
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4975
Ile Trp Leu Ile His Phe Tyr Thr Leu Ile Thr Leu Asn Thr His Asn
1               5                   10                  15
Gln Ile Asp Ile Leu Gly Lys Leu Val Ile Ile Lys Tyr Asp Leu Phe
             20                 25                  30
```

Ser Lys Lys Ile Tyr Leu Phe Tyr Lys
        35   40

<210> 4976
<211> 107
<212> PRT
<213> S.epidermidis

<400> 4976
Val Val Ile Ile Glu Thr Glu Tyr Tyr Cys His Leu Leu Ser Val Val
1   5   10   15
Thr Leu Pro Ile Gly Tyr Phe Leu Val Leu Asn His His Val Ile Gln
            20   25   30
Val Leu Gln Leu Gln Gly Gly Ile Ile Met Lys Cys Ile Ile Asn Gly
        35   40   45
Asp Leu Phe Thr Phe Asp Gln Asn Gln Ser Ile Gln Glu Val Leu His
        50   55   60
Ser Leu Glu Leu Asp Pro Lys Arg Val Ile Val Glu Leu Asn Lys Glu
65   70   75   80
Leu Ile Lys Gln Asp Lys Tyr Glu Glu Tyr Thr Val Arg Glu Asp Asp
                85   90   95
Arg Leu Glu Leu Leu Glu Ile Val Gly Gly Gly
            100   105

<210> 4977
<211> 49
<212> PRT
<213> S.epidermidis

<400> 4977
Gln Pro Ile Ile Lys Ile Ile Asn Lys Thr Ile Phe Thr Asn Ile Ser
1   5   10   15
Glu Asn Glu Leu Asn Arg Leu Thr Phe Leu Met Asp Ser Arg Leu Lys
            20   25   30
Val Ser Asn Asn Ile Pro Ile Asn Val Ile Ile Pro Lys Thr Leu Pro
        35   40   45
Ile

<210> 4978
<211> 64
<212> PRT
<213> S.epidermidis

<400> 4978
Phe Ile Val Ile Lys Ala Ile Tyr Val Thr Pro Leu Leu Tyr Tyr Leu
1   5   10   15
Leu Phe Tyr Leu Phe Phe Ser Leu Ile Tyr Arg Lys Asn Ala Thr Leu
            20   25   30
Thr Ile Asp Tyr Ile Asn Phe Tyr Thr Phe Gln Cys Gly Thr Lys Ile
            35   40   45
Leu Phe Ser Ile Leu Asn Lys Leu Ile Gln Tyr Arg Leu Ser Asn Leu
        50   55   60

<210> 4979
<211> 66

<212> PRT
<213> S.epidermidis

<400> 4979
Gly Asn Pro Ile Asp Asn Asn Ile Asp Pro Met Ile Ala Pro Arg Lys
1   5   10   15
Leu Ala Thr Leu Lys Ile Glu Ala Ala Asn Val Leu Ala Arg Ser Gly
            20   25   30
Ala Ser Phe Ala Leu Lys Ile Ile Leu Leu Leu Ser Asn Gly Val Val
            35   40   45
Pro Asn Val Pro Lys Pro Asn Lys Lys Gln Met Ile Asn Ala Asn Ile
    50   55   60
Glu Phe
65

<210> 4980
<211> 159
<212> PRT
<213> S.epidermidis

<400> 4980
Gly Thr Tyr Met Thr Ile Glu Lys Lys Lys Asn Lys Ile Ile Phe Thr
1   5   10   15
Arg Thr Phe Ser Ala Pro Ile Asn Lys Val Phe Asp Ala Tyr Thr Lys
            20   25   30
Arg Glu Leu Phe Glu Gln Trp Phe His Pro Gln Asp Ala Ser Val Thr
            35   40   45
Val Tyr Asp Phe Asn Ala Thr Lys Gly Gly Asn Ala Phe Tyr Ala Ile
    50   55   60
Gln Ala Pro Gln Met Thr Ser Tyr Thr Ile Ala Glu Tyr Leu Gln Val
65   70   75   80
Asp Ala Pro Tyr Tyr Ile Glu Tyr Leu Asp Tyr Phe Ala Thr Ser Lys
            85   90   95
Gly Glu Lys Asp Thr Ser Met Pro Gly Met His Ile Thr Leu Asn Phe
            100   105   110
Glu Glu Val Lys Gly Lys Thr Thr Val Thr Ser Thr Ser Thr Phe Pro
            115   120   125
Thr Glu Ser Ala Ala Gln Gln Ala Ile Asp Met Gly Val Glu Thr Gly
    130   135   140
Met Asn Ser Thr Leu Asn Gln Leu Glu Lys Leu Leu Asn Gln Lys
145   150   155

<210> 4981
<211> 209
<212> PRT
<213> S.epidermidis

<400> 4981
Ile His His Ile Ser Ser Ile Arg Asn Gly Val Ile Asn Val Lys Lys
1   5   10   15
Ile Ser Leu Ile Ala Thr Thr Val Leu Thr Gly Leu Leu Leu Phe Pro
            20   25   30
Ser Val Asn Asp Thr Thr Thr His Ala Ala Glu Val Thr Ser His Asp
            35   40   45
Ala Gln Ala Val Ala Ile Gln Ala Met Lys Asn Ser Gly Gly Asn Pro
    50   55   60

Asp Leu Gln Asn Phe Lys Lys Val Lys Asp Lys Gly Asp Tyr Phe Thr
65   70   75   80
Ile Asp Ile Asn Asn Lys Ser Gly Ala Gly Val Gly Thr Tyr Lys Val
            85   90   95
Tyr Lys Asn Gly Val Val Leu Tyr Lys Ser Gly Asn Tyr Gly Glu Tyr
            100   105   110
Ser Gln Leu Asn Thr Arg Gln Cys Tyr Val Ala Gln Asp Ile Ala Thr
            115   120   125
Thr Ser Ser Gln Val Lys Arg His Ser Thr Gln Gln Thr Gln Ala Val
            130   135   140
Asp Ser Thr Arg Glu Leu Asn Ser Tyr Tyr Val Gly Gln Val Gln Ser
145   150   155   160
Ser Asp Leu Pro Gln Gln Ser Ser Ser Asp Met Leu Pro Asn Thr Gly
            165   170   175
Met Lys Asp Lys Asn Phe Asn Thr Asn Gly Ile Ile Ser Leu Phe Leu
            180   185   190
Leu Thr Ala Gly Phe Ile Thr Leu Tyr His Gln Pro Leu Arg Lys Met
            195   200   205
Ser

<210> 4982
<211> 63
<212> PRT
<213> S.epidermidis

<400> 4982
Leu Asn His Ile Phe Phe Phe His Ile Arg Glu Ala Ser Ile Ile Thr
1   5   10   15
Thr Val Pro Val Ser Ile Ala Ile Lys Ser Val Thr Val Lys Phe Arg
            20   25   30
Ile Asn Lys Asn Gly Tyr Pro Pro Phe Val Lys Val Asn Asn Arg Phe
            35   40   45
Leu Ile Tyr Leu Ser Lys Ile Arg Thr Ile Gln His Val Phe Leu
    50   55   60

<210> 4983
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4983
Tyr Ile His Ile Ala His Arg Gln Phe Tyr Ile Leu Ile Ile Ile Gln
1   5   10   15
Phe Thr Tyr Asp Phe His Phe Asn Tyr Gln Asp Phe Phe Ser Leu Ile
            20   25   30
Ser Phe Leu Asp Arg Ile Asn Ile Asn Gln Leu Phe Arg Lys
            35   40   45

<210> 4984
<211> 206
<212> PRT
<213> S.epidermidis

<220>
<221> UNSURE

<222> (170)
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 4984
Arg Ile His Ile Met Lys Ile Ile Leu Pro Val Lys Pro Ile Ser Gln
1   5   10   15
Leu Phe Pro Ile Pro Phe Val Met Gly Cys Glu Gly Val Ser Ala Ala
            20   25   30
Met Leu Leu Gln Phe Asn Asn Tyr Asp Ile Lys Ala Thr Gln Ile Met
        35   40   45
Ser His Trp Pro Lys His Pro Thr Asn Pro Tyr Lys Gly Tyr Val Gly
    50   55   60
His Pro Leu Leu Val Lys Phe Gly His His Gln Thr Ile Phe Pro Asp
65   70   75   80
Ala Phe Ala Pro Phe Leu Lys Gln Tyr Asp Ser Arg Ile Val Asp Gly
                85   90   95
Thr Gly Thr Ser Leu Asn Gln Leu Glu Lys Phe Ile Asp Lys Gly Gln
            100   105   110
Pro Val Ile Ile Tyr His Thr Ser Leu Gly Ser Lys Pro Leu Arg Arg
        115   120   125
Val Phe His Phe Asp Asn Gln Pro Thr Lys Leu Val Ser Asn Ile His
    130   135   140
Val Thr Leu Leu Ile Gly Tyr Asp Asp Asp Tyr Tyr Tyr Tyr Ile Asp
145   150   155   160
Pro Leu Trp Ser Arg Leu Ser Lys Phe Xaa Ile Phe Pro Ser Ile Ile
                165   170   175
Pro Asn Ser Lys Gln Phe Ile Lys Ile Lys Lys His Thr Leu Glu Asn
            180   185   190
Ser Tyr Asn Ala Pro Gly Lys Lys Cys Ile Tyr Ile Asp Asn
        195   200   205

<210> 4985
<211> 44
<212> PRT
<213> S.epidermidis

<400> 4985
Thr Leu Asn Ile Ile Phe Ile Ser Phe Val Lys Phe Asn Phe Leu Thr
1   5   10   15
His Cys Ser Ser Gln Ser Ser Thr Ile Leu Phe Thr Leu Leu Leu Ala
            20   25   30
His Ile Ser Ser Lys Tyr Asn Phe Ser Cys Tyr Ser
        35   40

<210> 4986
<211> 673
<212> PRT
<213> S.epidermidis

<400> 4986
Val Thr Asn Met Thr Phe Lys Ile Leu Trp Lys Met Ile Lys Gln Asn
1   5   10   15
Phe Val Asn Gln Arg His Ile Ile Val Pro Phe Ile Ser Val Ile Ser
            20   25   30
Ile Leu Phe Gly Ile Glu Tyr Ile Leu Leu Ser Leu Thr Thr Asn Ile
        35   40   45

```
Tyr Phe Asn Glu His His Pro Glu Leu Lys Ile Ser Ala Ile Ile Gly
    50                  55                  60
Ile Val Phe Met Thr Met Leu Leu Phe Ile Phe Leu Ile Tyr Ala Asn
65                  70                  75                  80
His Phe Val Met Asn His Arg Lys Lys Glu Phe Ala Leu Asn Met Val
                85                  90                  95
Leu Gly Met Glu Lys Lys His Leu Arg Leu Ile Ile Leu Ile Glu Leu
                100                 105                 110
Phe Ile Gln Phe Ile Ile Ser Ala Ile Leu Ser Ile Val Gly Gly Tyr
            115                 120                 125
Leu Phe Gly Glu Leu Phe Phe Met Leu Phe Asn Lys Leu Val Asn Thr
        130                 135                 140
His Gln Pro Gln Leu Ser Asp Tyr Pro Phe Asp Val Leu Ser Met Lys
145                 150                 155                 160
Ile Thr Leu Thr Met Leu Leu Ser Leu Met Ile Ile Leu Phe Val Ile
                165                 170                 175
Asn Asn Phe Lys Ile Ser Phe Lys Asn Ser Leu Gln Leu Leu Leu Lys
            180                 185                 190
Asn Lys Ser Lys Thr His Glu Lys Ser Arg Val Arg Leu Ile Ile Phe
            195                 200                 205
Leu Ile Leu Gly Leu Ile Phe Ile Gly Ile Gly Tyr Tyr Leu Ala Ile
    210                 215                 220
Lys Pro Asn Thr Ala Ile Gly Ser Leu Gly Ile Ile Phe Phe Ala Ile
225                 230                 235                 240
Leu Ser Thr Leu Ile Gly Thr Tyr Leu Leu Phe Val Ser Leu Gly Ser
                245                 250                 255
Ile Val Leu Glu Met Leu Gln Lys Leu Asp Tyr Tyr Tyr Tyr Lys Pro
            260                 265                 270
Asn His Phe Phe Phe Ile Ala Gly Leu Lys Ser Arg Val Lys Ser Ser
        275                 280                 285
Ala Ile Gly Leu Ala Thr Ile Ser Phe Met Cys Thr Phe Leu Ile Val
    290                 295                 300
Thr Leu Ser Met Thr Val Ser Thr Tyr Arg Asn Met Asp His Arg Phe
305                 310                 315                 320
Glu Phe Ala Phe Lys Asn Asp Tyr Ala Gly Tyr Tyr Ile Gly Asp Phe
            325                 330                 335
His Lys Asp Ser Lys Leu Gln Arg Lys Ile Glu Asn Leu Lys Lys Asp
        340                 345                 350
Ile Arg Gln Glu Val Pro Thr Gly Gln Phe Lys Ile Tyr Ala Arg Gly
    355                 360                 365
Met Val Gly Ala Glu Leu Gln Gly Gly Leu Lys His Lys Lys Leu Lys
370                 375                 380
Arg Gln Thr Val Ser Ser Gly Leu Phe Asn Phe Gly Asn Lys Gln Lys
385                 390                 395                 400
Phe Asn Ser Phe Ile Ser Ile Tyr Asn Lys Ser Asp Tyr Asn Lys Asn
            405                 410                 415
Asn Lys Lys Ile Lys Leu Asp Asp Asp Glu Ile Ala Ile Ser Thr Ser
            420                 425                 430
Val Ser Leu Phe Lys Lys Met Lys Thr Leu Asn Ile Phe Gly Lys Thr
        435                 440                 445
Tyr Arg Val Lys Tyr Ile Glu Ser Thr Asn Ile Asp Asn Leu Leu Tyr
    450                 455                 460
Ala Asp Gly Ile Thr Leu Ile Val Asn Gln Gln Gln Leu Met Asp Arg
465                 470                 475                 480
Ile Val Asn Glu Tyr Arg Asn His Asn Asp Glu Asn Leu Ile Ile Thr
            485                 490                 495
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Pro Asn Gln Val Gln Thr Ala Val Glu Phe Asn Val Leu Lys Glu Lys
            500                 505                 510
Asp Lys Leu Asn His Arg Ile Lys Lys Ile Gly Val Gln His Asp Ile
        515                 520                 525
Glu Phe Gln Val Lys Lys Gln Asn Leu Leu Met Trp Lys Gln Val Asn
    530                 535                 540
Ser Ser Leu Val Phe Val Gly Ser Val Val Ser Leu Val Leu Leu Ile
545                 550                 555                 560
Gly Ile Phe Leu Met Met Tyr Tyr Lys Gln Val Ser Glu Gly His Glu
                565                 570                 575
Asp Arg Asp Ala Tyr Ile Thr Met Lys Gln Leu Gly Leu Asp Glu Ile
            580                 585                 590
Leu Ile Lys Lys Thr Ile Asn Lys Gln Val Ile Trp Val Phe Leu Ile
        595                 600                 605
Pro Val Ile Val Ala Ile Ile His Thr Leu Ala Ala Phe Arg Ile Ile
    610                 615                 620
Tyr Ser Val Leu Gly Ile Val Gly Gln Tyr Asp Leu Gly Leu Tyr Ala
625                 630                 635                 640
Thr Ser Tyr Val Gly Val Ile Val Val Phe Ile Ile Phe Tyr Ser Ile
                645                 650                 655
Met Tyr Trp Ile Thr Ser Arg Ile Tyr Tyr Thr Met Ile Asn Gly Lys
                660                 665                 670
His
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<210> 4987
<211> 541
<212> PRT
<213> S.epidermidis

<400> 4987
```
Arg Met Ile Leu Val Gln Leu Ile Leu Phe Ile Lys Leu Ile Ser Tyr
1               5                   10                  15
Leu Lys Val Met Phe Gln Val Ala Arg Lys Phe Arg Val Leu Gln Val
            20                  25                  30
Gly Gly His Asp Leu Gly Ser Leu Phe Asn Gln Lys Ser Asn Val Glu
        35                  40                  45
Trp Asp Tyr Phe Asp Val Gly Leu Phe Asp Phe Glu Ser Gly Tyr Gln
    50                  55                  60
Asp Val Val Val His Ile Leu Asp Glu Lys Gly Gln Phe Asp Phe Val
65                  70                  75                  80
Phe Val Arg Glu Lys Tyr Ser Asp Ser Leu Met Lys Leu Leu Ser Leu
                85                  90                  95
Val Ser Thr Pro Tyr Asn Thr Val Ile Asp Asn Glu Tyr Trp Asp Asn
            100                 105                 110
Gln Tyr Gln Gln Asp Lys Thr Ile Gln Arg Asn Phe Ile Lys Pro Leu
        115                 120                 125
Ile Tyr Glu Asn Glu Glu Gln Leu Gln Gln Lys Leu Glu Ala Val Thr
    130                 135                 140
Phe Pro Gly Gln Tyr Gly Asp Lys Val Lys Pro Ile His Cys Arg Val
145                 150                 155                 160
Ser Ile His Phe Asp Gly Ser Tyr Gln Phe Asn Gly Asn Glu Ser Ile
                165                 170                 175
Glu Val Ser Gly Arg Phe Gly Glu Ser Tyr Gln Pro Leu Ile Thr Trp
            180                 185                 190
Ser Gln Asn Ile Ile Ala Asp Ala Asn Lys Val Asn Gln Ile Trp Pro
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                195                     200                     205
Glu Phe Lys Val Glu Gly Asp Ala Lys Ile Gln Tyr Thr Leu Arg Leu
    210                     215                     220
Thr Pro Val Tyr Ser Thr Asp Gln Pro Val Glu Lys Leu Ile Tyr Glu
225                     230                     235                     240
Gln Asp Asp Leu Asp Thr Pro Ile Glu Leu Pro Ala Arg Pro Tyr Gln
                245                     250                     255
Thr Tyr Val Ser Val Ser Ile Lys Ala Lys Gly Lys Gly Thr Leu Phe
                260                     265                     270
Ile Gly Ala Ile His Lys Arg Trp Ser Arg Leu Glu Leu Gly Gln Phe
                275                     280                     285
Ile Leu Gly Gly Lys Arg Tyr Ser Asp Glu Asn Lys Gln Glu Phe Ile
    290                     295                     300
His Tyr Phe His Pro Gly Asp Leu Lys Pro Pro Leu Asn Val Tyr Phe
305                     310                     315                     320
Ser Gly Tyr Arg Thr Ala Glu Gly Phe Glu Gly Tyr Phe Met Met Lys
                325                     330                     335
Arg Met Asn Ala Pro Phe Ile Leu Ile Ala Asp Pro Arg Ile Glu Gly
                340                     345                     350
Gly Ala Phe Tyr Leu Gly Ser Glu Asn Tyr Glu Gln Ala Ile Arg Lys
                355                     360                     365
Val Ile Gln Asn Ala Leu Asp Tyr Leu Gly Phe Ala Asn Asn Gln Leu
    370                     375                     380
Ile Leu Ser Gly Leu Ser Met Gly Ser Phe Gly Ala Leu Tyr Tyr Ala
385                     390                     395                     400
Thr Lys Leu Asn Pro Ala Ala Val Ile Val Gly Lys Pro Leu Ile Asn
                405                     410                     415
Leu Gly Thr Ile Ala Asn Asn Met Lys Leu Val Arg Pro Asn Asp Phe
                420                     425                     430
Gly Thr Ser Leu Asp Ile Leu Arg Leu Asn Gln Asn Gly Ile Thr Asn
                435                     440                     445
Lys Asp Val Val Gln Leu Asp Asn His Phe Trp Lys Gln Ile Gln His
    450                     455                     460
Ser Asp Leu Ser Met Thr Thr Phe Ala Ile Ala Tyr Met Glu His Asp
465                     470                     475                     480
Asp Tyr Asp Lys Tyr Ala Phe Gln Asp Leu Leu Pro Val Leu Thr Lys
                485                     490                     495
Gln His Ala Arg Val Ile Ser Lys Arg Ile Pro Gly Arg His Asn Asp
                500                     505                     510
Asp Ser Ala Thr Val Thr His Trp Phe Ile Asn Phe Tyr His Leu Ile
    515                     520                     525
Met Glu Glu Arg Phe Gly Arg Val Thr His Ala Arg Arg
    530                     535                     540
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<210> 4988
<211> 236
<212> PRT
<213> S.epidermidis

<400> 4988
Gly Asp Asn Met Lys Arg Thr Asp Lys Tyr Arg Asp Ser Tyr Lys Tyr
1                   5                   10                  15
Asp Asp Gln Tyr Gln Asn His Arg Lys Arg Ser Glu Glu Asp Met Tyr
                20                  25                  30
Arg Gln His Gln Glu Ser Gln Gln Arg Ala Asn Ser Asn Arg Ala Thr
                35                  40                  45
```

```
Gln Ser Glu Asn Asp Arg Glu Tyr Glu Asn His Pro Glu Arg Tyr Tyr
    50                  55                  60
Asn Gly Arg Asp Tyr Arg Arg Glu Gln Gln Leu Glu Glu Glu Asn Glu
65                  70                  75                  80
Lys Ser Ser Lys Thr Lys Lys Trp Leu Ile Ala Ile Ile Val Ile Leu
                85                  90                  95
Leu Ile Ile Val Ala Ile Phe Ile Thr Arg Ala Ile Ile Asn His Asn
                100                 105                 110
Asn Asp Lys Val Ser Asn Asp Pro Asn Val Ser Gln Asn Tyr Lys Lys
                115                 120                 125
Glu Val Glu Asn Gln Asn Asp Asp Ile Asn Arg Gln Val Asp Ser Ala
    130                 135                 140
Lys Ser Asp Ile Lys Asn Lys Lys Asp Thr Gln Ser Gln Ile Asp Lys
145                 150                 155                 160
Leu Gln Asn Gln Ile Asp Gln Leu Lys Gln Asn Glu Glu Thr Asn Ala
                165                 170                 175
Asp Ser Lys Phe Thr Lys Phe Tyr Gln Asn Gln Ile Asp Lys Leu Lys
                180                 185                 190
Asn Ala Asn Asn Ala Gln Leu Asn Asn Glu Asn Gln Ser Lys Val Asn
                195                 200                 205
Asn Met Leu Glu Asp Ile Asn Thr Lys Phe Asp Ser Ile Lys Ala Lys
    210                 215                 220
Leu Glu Asn Ile Leu Asn Gly Ser Asn Ser Gly Asn
225                 230                 235
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<210> 4989
<211> 347
<212> PRT
<213> S.epidermidis

<400> 4989
Val Val Asn Met Leu Glu Gln Thr Asp Leu Ser Leu Glu Gln Leu Leu
1               5                   10                  15
Lys Asn Tyr Tyr Glu Thr Thr Asn Glu Lys Ile Val Phe Val Asn Arg
                20                  25                  30
Gln Gly Lys Ile Ile Ala Met Asn Asp Ala Ala Lys Asp Ile Leu Thr
            35                  40                  45
Glu Glu Asp Asn Tyr Asn Ala Met Thr Asn Ala Ile Cys His Arg Cys
    50                  55                  60
Glu Gly Tyr Ser Asn Glu Tyr Asp Val Gln Ser Cys Lys Asp Cys Phe
65                  70                  75                  80
Leu Glu Thr Thr Gln Leu Gln His Ser Asn Phe Gln Val Phe Met Lys
                85                  90                  95
Thr Lys Asp Asn Glu Ile Lys Pro Phe Thr Ala Met Tyr Gln Asn Ile
                100                 105                 110
Asp Glu Gln Arg Gly Ile Ser Ala Phe Thr Leu Gln Asn Val Ala Pro
            115                 120                 125
Gln Ile Glu Arg Gln Glu Lys Met Tyr Gln Gln Lys Met Leu His Arg
    130                 135                 140
Ser Ile Gln Ala Gln Glu Asn Glu Arg Lys Arg Ile Ser Arg Glu Leu
145                 150                 155                 160
His Asp Ser Val Ile Gln Asp Met Leu Asn Ile Asp Val Glu Leu Arg
                165                 170                 175
Leu Leu Lys Tyr Lys His Arg Asp Lys Val Leu Ala Glu Thr Ser Gln
                180                 185                 190
Arg Ile Glu Gly Leu Leu Ser Gln Leu Ile Asp Asp Ile Arg Asn Met
```

```
            195                      200                      205
Ser Val Glu Leu Arg Pro Ser Ser Leu Asp Asp Leu Gly Ile Glu Ala
    210                      215                  220
Ala Phe Lys Ser Tyr Phe Lys Gln Phe Glu Glu Asn Tyr Gly Met His
225                      230                  235                  240
Ile Lys Tyr Asp Ser Asn Ile Lys Gly Met Arg Phe Asp Asn Glu Ile
                245                  250                  255
Glu Thr Val Val Tyr Arg Val Val Gln Glu Gly Val Phe Asn Ala Leu
            260                  265                  270
Lys Tyr Ala Glu Val Asn Glu Ile Glu Val Ser Thr His Ser Asp Gly
        275                  280                  285
Lys Gln Leu Val Ala Glu Val Val Asp Arg Gly Lys Gly Phe Ser Leu
    290                  295                  300
Asp His His Pro Lys Gly Ser Gly Leu Gly Leu Tyr Gly Met Arg Glu
305                  310                  315                  320
Arg Ala Glu Leu Val Asn Gly His Val Asn Ile Glu Thr His Ile Asn
            325                  330                  335
Arg Gly Thr Ile Ile Thr Leu Asp Ile Pro Ile
            340                  345
```

<210> 4990
<211> 177
<212> PRT
<213> S.epidermidis

<400> 4990
```
Glu Thr Asn Met Lys Glu Lys Arg Ser Asn Val Arg Trp Tyr Phe Ala
1                   5                   10                  15
Ile Gly Phe Phe Phe Ile Gly Val Ile Ala Tyr Met Asp Arg Ser Asn
                20                  25                  30
Ile Ser Tyr Ile Ala Val Pro Met Met Lys Asp Leu Gly Leu Thr Lys
            35                  40                  45
Thr Gln Phe Gly Leu Leu Ala Ser Phe Phe Ser Leu Gly Tyr Ala Leu
        50                  55                  60
Met Gln Val Pro Ser Gly Met Leu Ala Glu Lys Phe Gly Pro Arg Lys
65                  70                  75                  80
Met Ile Thr Val Ala Leu Val Trp Trp Ser Ala Phe Thr Ile Leu Thr
                85                  90                  95
Gly Met Ile Lys His His Gly Leu Leu Tyr Phe Ile Arg Phe Leu Phe
            100                 105                 110
Gly Val Gly Glu Ala Pro Met Tyr Pro Ser Asn Ala Val Phe Asn Ser
            115                 120                 125
Phe Trp Phe Ala Lys Asn Glu Lys Gly Arg Ala Ser Ser Ala Leu Leu
    130                 135                 140
Ala Gly Ser Tyr Phe Gly Pro Val Leu Ala Pro Ile Ile Thr Ile Ala
145                 150                 155                 160
Ile Val Asn Ala Phe Asn Trp Gln Ala Val Phe Tyr Ile Phe Gly Val
                165                 170                 175
Val
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<210> 4991
<211> 196
<212> PRT
<213> S.epidermidis

<400> 4991

Lys Tyr Asp Ile Asn Glu Met Gly Asp Lys Met Tyr Lys Tyr Leu Lys
1   5   10   15
Arg Asn Arg Phe Ser Thr Gln Thr Ser Ile Ile Lys Asn Asp Ala Gln
            20   25   30
Gln Pro Val Gly Met Ile Ser Lys Val Tyr Lys Asn Phe Ile Gln Lys
            35   40   45
Cys Ile Gly Tyr Leu Thr Leu Gly Leu Lys Leu Asn Gln Tyr Glu Ile
    50   55   60
Cys Asp Val Asn Asn Asn Ser Val Ala Tyr Ile Lys Val Ser Arg Tyr
65   70   75   80
Met Glu Lys Lys His Phe Lys Val Glu Tyr His Asp Ser Lys Gly Arg
                85   90   95
Gln Cys Glu Ala Leu Phe Asp Lys Gln Ser Asn Gly Tyr Glu Glu Thr
            100   105   110
Tyr Gly Ile Leu Lys Ile Asp Gly Ile Ile Leu Asn Ile His Ala Asn
            115   120   125
Glu Lys His His Thr Thr Ile Lys Asp Ile Lys Arg Asp Thr Gln Ile
            130   135   140
Ala Ser Trp Lys Gln Ile Gly Asp Tyr Ala Tyr Ala Glu Gly Asn Asp
145   150   155   160
Gly Leu Phe Lys Glu His Gln Leu Leu Tyr Ile Leu Ile Met His Ala
                165   170   175
Phe Ala Asn Thr Tyr Val Ser Lys Arg Gln Thr Ser Leu Met Phe Pro
            180   185   190
Gly Pro Pro Val
        195

<210> 4992
<211> 47
<212> PRT
<213> S.epidermidis

<400> 4992

Ile Phe Asp Ile Lys Cys Arg Leu Ser Leu Tyr Ile His Leu Ser Gln
1   5   10   15
Pro Pro Ile Ser Leu Gln Thr His Tyr Ser Glu Leu Lys Phe Asn Ile
            20   25   30
Glu Thr Leu Cys His Ile Thr Val Val Ser Tyr Ile Ile Tyr Arg
        35   40   45

<210> 4993
<211> 46
<212> PRT
<213> S.epidermidis

<400> 4993

Asp Ile Asp Ile Cys Leu Arg Cys Phe Val Tyr Trp Lys Leu Met Ala
1   5   10   15
Glu Phe Lys Met Cys Arg Ser Lys Ser Leu Tyr Tyr Lys Phe Phe Lys
            20   25   30
Lys Val Tyr Asp Gly Arg Tyr Phe Asn Gln Leu Leu Phe Phe
            35   40   45

<210> 4994
<211> 382

<212> PRT
<213> S.epidermidis

<400> 4994
Val Lys Cys Ile Phe Ser Gln Lys Leu Tyr Ile Ser Ile Gln Gln Thr
1   5   10   15
Trp Tyr Asn Tyr Cys Glu Lys Phe His Ile Ile Asn Gly Gly Ile Asp
            20   25   30
Met Lys Ala Tyr Glu Tyr Leu Lys Pro Gly His Ala Gln Leu Thr Asp
        35   40   45
Lys Glu Lys Pro Thr Ile Thr Ser Ser Thr Asp Ala Ile Ile Arg Ile
        50   55   60
Val Lys Thr Thr Ile Cys Gly Thr Asp Leu His Ile Ile Lys Gly Asp
65   70   75   80
Thr Pro Glu Val Lys Ser His Thr Thr Leu Gly His Glu Gly Ile Gly
                85   90   95
Ile Ile Glu Glu Ile Gly Asp Asn Val Asn Asn Phe Lys Val Gly Asp
                100   105   110
Lys Val Ile Ile Ser Cys Ile Ser Ser Cys Gly Lys Cys Tyr Tyr Cys
            115   120   125
Lys Lys Gly Ile Tyr Ala His Cys Glu Asn Gly Gly Gly Trp Ile Leu
    130   135   140
Gly His Leu Val Asn Gly Thr Gln Ala Glu Tyr Val Lys Val Pro Phe
145   150   155   160
Ala Asp Asn Ser Leu Tyr His Ala Pro Ser Asn Leu Lys Asp Asp Ala
            165   170   175
Leu Val Met Leu Ser Asp Ile Leu Pro Thr Gly Tyr Glu Ile Gly Val
            180   185   190
Leu Lys Gly Lys Val Lys Pro Gly Cys Thr Val Ala Ile Val Gly Ala
        195   200   205
Gly Pro Val Gly Leu Ala Ala Leu Leu Thr Ala Gln Phe Tyr Ser Pro
    210   215   220
Ser Lys Ile Ile Met Ile Asp Leu Asp Asp Asn Arg Leu Glu Thr Ala
225   230   235   240
Lys Glu Leu Gly Ala Thr His Leu Ile Asn Ser Lys Glu Thr Glu Thr
            245   250   255
Ala Ile Lys Lys Val Lys Ser Leu Asn Pro Arg Gly Val Asp Val Ala
            260   265   270
Ile Glu Ala Val Gly Ile Pro Gln Thr Phe Asp Leu Cys Gln Asn Leu
        275   280   285
Ile Gly Val Asp Gly Thr Ile Ala Asn Val Gly Val His Gly Leu Pro
        290   295   300
Val Gln Leu Asp Ile Asp Lys Leu Trp Ile Lys Asn Ile Asn Val Thr
305   310   315   320
Thr Gly Leu Val Ser Gly Asn Thr Thr Glu Glu Leu Leu Glu Ala Leu
            325   330   335
Lys Ser Lys Ile Ile Gln Pro Glu Gln Leu Val Thr His Tyr Ser Lys
        340   345   350
Leu Ser Glu Ile Glu Ser Ala Tyr Asp Leu Phe Arg Asn Ala Thr Asp
        355   360   365
His Lys Ala Ile Lys Leu Ile Ile Glu Asn Asp Ile Thr Ile
    370   375   380

<210> 4995
<211> 53
<212> PRT

<213> S.epidermidis

<400> 4995
Leu Lys Arg Met Ile Trp Val Tyr Ile Asn Tyr Gly Val Lys Ile Asn
1   5   10   15
Val Gly Tyr Ala Arg Val Leu Ser Met Asp Gln Asn Leu Lys Arg Gln
            20   25   30
Leu Asp Asn Leu Lys Thr Phe Gly Val Lys Asn Ile Tyr Arg Lys Thr
            35   40   45
Val Trp Gly Ile Tyr
        50

<210> 4996
<211> 66
<212> PRT
<213> S.epidermidis

<400> 4996
Arg Arg Arg Ile Met Phe Ser Thr Gly Asn Lys Ala Lys Lys Thr Ile
1   5   10   15
Phe Gly Ala Met Thr Cys Ser Lys Cys Gly Lys Thr Leu Asn Asn Asp
            20   25   30
Glu Asn Ile Thr Ile Lys Ile Asn Thr Lys Glu Leu Lys Gly Tyr Thr
            35   40   45
His Leu Ser Ser Trp Ala Asp Ala Gln Tyr Lys Leu Cys Glu Asn Cys
        50   55   60
Ser Glu
65

<210> 4997
<211> 41
<212> PRT
<213> S.epidermidis

<400> 4997
Tyr Lys Ser Ile Ala Tyr Cys Ala Cys Leu Thr Val Phe Leu Gln Phe
1   5   10   15
Leu Thr Ile Tyr Tyr Lys Lys Phe Ile Ile Leu Ile Lys Ile Lys Tyr
            20   25   30
Pro Ser Leu Ile Arg Tyr Ala Asn Leu
            35   40

<210> 4998
<211> 89
<212> PRT
<213> S.epidermidis

<400> 4998
Ile Ile Phe Ile Phe Lys Leu Phe Leu Ser Leu Asn Leu Lys Thr Asn
1   5   10   15
Lys Tyr Val Tyr Lys Ile Tyr Asn Leu Ile His Thr Lys Lys His Leu
            20   25   30
Lys Cys Phe His Tyr Ser Phe Lys Val Leu Ile Lys Leu Asn Ile Tyr
            35   40   45
Phe Asn Gly Tyr Leu His His Asp Arg His Leu Gln Tyr Phe Tyr Leu
        50   55   60

Tyr His Lys Gln His Leu Gly His Cys Gln Ser Leu Asp His Tyr Ala
65   70   75   80
Phe Leu Gln His His Asn Gln Asp Phe
                 85

<210> 4999
<211> 111
<212> PRT
<213> S.epidermidis

<400> 4999
Val Tyr Ile Met Tyr Glu Asn Ile Gln Asn Ile Glu Asp Phe Tyr Arg
1   5   10   15
Phe Ile Asn Ala His Ala Leu Ala Val Val His Ile Met Arg Asp Asn
            20   25   30
Cys Thr Val Cys His Ala Val Leu Pro Gln Ile Gln Asp Leu Leu Lys
            35   40   45
Asp Tyr Pro Lys Ala Gln Leu Gly Val Ile Asn Gln Ser Asn Val Glu
        50   55   60
Ala Ile Ala Gly Glu Leu Ser Ile Phe Thr Val Pro Val Asp Leu Ile
65   70   75   80
Phe Leu Lys Gly Lys Glu Met His Arg Gln Ala Arg Phe Ile Asp Met
                 85   90   95
Gln Ser Phe Glu Lys Gln Leu Tyr Met Met Gln Asn Ala Ile Asp
             100   105   110

<210> 5000
<211> 521
<212> PRT
<213> S.epidermidis

<400> 5000
Gly Val Ile Ile Glu Met Lys Ile Phe Lys Thr Leu Ser Ser Ile Leu
1   5   10   15
Val Thr Ser Val Leu Ser Val Thr Val Ile Pro Ser Thr Phe Ala Ser
            20   25   30
Thr Glu Ser Thr Ala Thr Asn Gln Thr Gln Gln Thr Val Leu Phe Asp
            35   40   45
Asn Ser His Ala Gln Thr Ala Gly Ala Ala Asp Trp Val Ile Asp Gly
        50   55   60
Ala Phe Ser Asp Tyr Ala Asp Ser Met Arg Lys Gln Gly Tyr Gln Val
65   70   75   80
Lys Glu Leu Glu Gly Glu Ser Asn Ile Ser Asp Gln Ser Leu Gln Gln
                 85   90   95
Ala His Val Leu Val Ile Pro Glu Ala Asn Asn Pro Phe Lys Glu Asn
             100   105   110
Glu Gln Lys Ala Ile Ile Asn Phe Val Lys Asn Gly Gly Ser Val Ile
             115   120   125
Phe Ile Ser Asp His Tyr Asn Ala Asp Arg Asn Leu Asn Arg Ile Asp
        130   135   140
Ser Ser Glu Ser Met Asn Gly Tyr Arg Arg Gly Ala Tyr Glu Asn Ile
145   150   155   160
Thr Lys Asp Met Asn Asn Glu Glu Lys Asn Ser Asn Val Met His Asn
             165   170   175
Val Lys Ser Ser Asp Trp Leu Ser Gln Asn Phe Gly Val Arg Phe Arg
             180   185   190

Tyr Asn Ala Leu Gly Asp Ile Asn Thr Gln Asn Ile Val Ser Ser Lys
        195   200   205
Asp Ser Phe Gly Ile Thr Lys Gly Val Gln Ser Val Ser Met His Ala
        210   215   220
Gly Ser Thr Leu Ala Ile Thr Asp Pro Asn Lys Ala Lys Gly Ile Ile
225   230   235   240
Tyr Met Pro Glu His Leu Thr His Ser Gln Lys Trp Ser His Ala Val
        245   250   255
Asp Gln Gly Ile Tyr Asn Gly Gly Gly Ile Asn Glu Gly Pro Tyr Val
        260   265   270
Ala Ile Ser Lys Ile Gly Lys Gly Lys Ala Ala Phe Ile Gly Asp Ser
        275   280   285
Ser Leu Val Glu Asp Arg Ser Pro Lys Tyr Leu Arg Glu Asp Asn Gly
        290   295   300
Lys Pro Lys Lys Thr Tyr Asp Gly Phe Lys Glu Gln Asp Asn Gly Lys
305   310   315   320
Leu Leu Asn Asn Leu Thr Thr Trp Leu Gly Lys Lys Glu Ser Gln Pro
        325   330   335
Ser Met Lys Asp Met Gly Ile Lys Leu Asp Asn Lys Thr Pro Leu Leu
        340   345   350
Asn Phe Glu Gln Pro Glu Asn Ser Ile Glu Pro Gln Lys Glu Pro Trp
        355   360   365
Thr Thr Pro Ile Glu Gly Tyr Lys Trp Tyr Asp Arg Ser Thr Phe Lys
        370   375   380
Lys Gly Ser Tyr Gly Ser Asn Gln Arg Gly Ala Asp Asp Gly Val Asp
385   390   395   400
Asp Lys Ser Ser Ser His Gln Asn Gln Asn Ala Lys Val Glu Leu Thr
        405   410   415
Leu Pro Gln Asn Ile Gln Pro His His Pro Phe Gln Phe Thr Ile Lys
        420   425   430
Leu Thr Gly Tyr Glu Pro Asn Ser Thr Ile Asn Asp Val Arg Val Gly
        435   440   445
Leu Tyr Lys Asp Gly Gly Lys Gln Ile Gly Ser Phe Ser Ser Asn Arg
        450   455   460
Asn Gln Phe Asn Thr Pro Gly Tyr Ser Pro Ser Gln Ser Ile Lys Thr
465   470   475   480
Asn Gly Ala Gly Glu Ala Ser Phe Thr Leu Thr Ala Lys Val Thr Asp
        485   490   495
Glu Ile Lys Asp Ala Asn Ile Arg Val Lys Gln Gly Lys Lys Ile Leu
        500   505   510
Leu Thr Gln Lys Met Asn Glu Asn Phe
        515   520

<210> 5001
<211> 207
<212> PRT
<213> S.epidermidis

<400> 5001
Glu Glu Ile Ile Met Asn Met Pro Leu Met Ile Asp Leu Ser Asn Lys
1   5   10   15
Lys Val Val Ile Val Gly Gly Gly Lys Val Ala Thr Arg Arg Ala Lys
            20   25   30
Thr Leu Leu Ala Tyr Thr Lys His Ile His Val Val Ser Pro Thr Ile
        35   40   45
Thr Asp Thr Leu Gln Lys Tyr Leu Glu Thr Lys Gln Ile Thr Tyr Glu

```
          50                      55                      60
Lys Lys His Phe Glu Pro Gln Asp Val Glu Asn Ala Asp Val Val Ile
65                      70                      75                      80
Ala Ala Thr Asn Gln Ser Asp Val Asn Asn Asp Val Gly Ala Ala Leu
                85                      90                      95
Ser Lys Asn Val Leu Phe Asn His Ala Gly Gln Ala Asp Leu Gly Asn
            100                     105                     110
Ile Thr Phe Pro Asn Phe Leu Lys Arg Asp Lys Leu Thr Ile Ser Val
            115                     120                     125
Ser Thr Asp Gly Ala Ser Pro Lys Leu Gly Gln Arg Ile Ile Lys Asp
        130                     135                     140
Leu Lys Asp Thr Tyr Asn Lys Asp Tyr Ser Met Tyr Ile Gln Phe Leu
145                     150                     155                     160
Tyr Glu Ser Arg Gln Tyr Ile Lys Ser Leu Lys Ile Glu Pro Ser Asp
                165                     170                     175
Lys Gln Ala Leu Leu Glu Gln Ile Leu Ser Asp Lys Tyr Leu Asp Glu
            180                     185                     190
Lys Lys Gln Gln Asp Phe Ile Arg Trp Leu Lys Ser Gln Val Lys
        195                     200                     205
```

```
<210> 5002
<211> 40
<212> PRT
<213> S.epidermidis

<400> 5002
Asp Asp Ser Met Tyr Ser Asn Ala Lys Ser His Val Cys Lys Lys Leu
1               5                   10                      15
Val Thr Ile Lys Lys Gly Ala Glu Leu Asn Ser Ser Lys Asn Ser Met
            20                  25                      30
Ser Arg Ser Ile Ala Leu Ile Asp
        35                  40
```

```
<210> 5003
<211> 144
<212> PRT
<213> S.epidermidis

<400> 5003
Ser Ser Pro Ile Trp Tyr Lys Thr Ile Thr Val Gln Arg Arg Asn Ile
1               5                   10                      15
Met Lys Leu Thr Arg Ile His Tyr Glu Ile Ile Lys Phe Ile Ile Val
            20                  25                      30
Gly Gly Ile Asn Thr Phe Asn Tyr Tyr Ile Thr Tyr Leu Phe Leu Leu
            35                  40                      45
Lys Val Leu His Val Asn Tyr Met Val Ser His Ile Val Gly Phe Ile
        50                  55                      60
Val Ser Phe Ile Ile Ser Tyr Tyr Leu Asn Cys Tyr Phe Val Tyr Lys
65                  70                      75                      80
Val Lys Pro Thr Ile Glu Lys Phe Leu Arg Phe Pro Ile Thr Gln Ile
                85                      90                      95
Val Asn Met Val Met Gln Thr Leu Leu Leu Tyr Ile Phe Val Lys Trp
            100                     105                     110
Leu Asn Ile Ala Ser Glu Ile Ala Pro Phe Ala Gly Leu Ile Ile Thr
        115                     120                     125
Ile Pro Val Thr Phe Ile Leu Ser Lys Trp Leu Leu Arg Asp Lys Val
```

<210> 5004
<211> 68
<212> PRT
<213> S.epidermidis

<400> 5004
Phe Leu Tyr Ile Arg His Leu Val Asn Leu Val Tyr Trp Tyr Leu Leu
1   5   10   15
Asn Tyr Thr Lys Gly Pro Tyr Phe Ser Lys Tyr Phe Asn Ile Lys Leu
            20   25   30
His Ile Cys Thr Lys Tyr Phe Gly Glu Thr Leu Glu Gly Thr Gly Gln
            35   40   45
Ala Glu Asp Tyr Arg Leu Lys Leu Ser Asp Lys Lys Ala Ser Gln Gln
            50   55   60
Tyr Glu Val Leu
65

<210> 5005
<211> 568
<212> PRT
<213> S.epidermidis

<400> 5005
Leu Phe Asn Ile Tyr Lys Gly Val Phe Met Lys Asn Asn Ser Lys Ser
1   5   10   15
Lys Ser Asn Lys Ile Ser Leu Ser Gln Leu Val Leu Leu Gly Leu Gly
            20   25   30
Ser Leu Ile Gly Ser Gly Trp Leu Phe Gly Ala Trp Glu Ala Ser Ser
            35   40   45
Met Ala Gly Pro Ala Ala Ile Ile Ser Trp Val Ile Gly Phe Leu Val
            50   55   60
Ile Gly Thr Ile Ala Tyr Asn Tyr Ile Glu Ile Gly Thr Met Phe Pro
65   70   75   80
Gln Ser Gly Gly Met Ser Asn Tyr Ala Gln Tyr Thr His Gly Ser Leu
                85   90   95
Leu Gly Phe Ile Ala Ala Trp Ala Asn Trp Val Ser Leu Val Thr Ile
            100   105   110
Ile Pro Ile Glu Ala Val Ser Ala Val Gln Tyr Met Ser Ser Trp Pro
            115   120   125
Trp Asp Trp Ala Lys Pro Met Gly Ser Leu Met Lys Asp Gly Ser Ile
            130   135   140
Ser Thr Tyr Gly Leu Ile Ala Val Tyr Ile Ile Ile Ala Ile Phe Ser
145   150   155   160
Leu Leu Asn Tyr Trp Ser Val Lys Leu Leu Thr Ser Phe Thr Ser Leu
                165   170   175
Ile Ser Val Phe Lys Leu Gly Val Pro Ile Leu Thr Ile Ile Met Leu
                180   185   190
Leu Val Ser Gly Phe Asp Thr Gly Asn Tyr Gly His Ser Ile Gly Thr
            195   200   205
Phe Met Pro Tyr Gly Ser Ala Pro Ile Phe Ala Ala Thr Thr Thr Ser
            210   215   220
Gly Ile Ile Phe Ser Phe Asn Ala Phe Gln Thr Ile Ile Asn Met Gly
225   230   235   240
Ser Glu Ile Lys Asn Pro Glu Lys Asn Ile Ala Arg Gly Ile Val Ile

```
                    245                    250                    255
    Ser Leu Thr Leu Ser Ala Ile Leu Tyr Ile Val Leu Gln Ser Thr Phe
                260                    265                    270
    Ile Thr Ser Met Pro Ser Ser Met Leu His Glu His Gly Trp Ser Gly
                275                    280                    285
    Ile Asn Phe Asn Ser Pro Phe Ala Asp Met Ala Ile Leu Leu Gly Leu
                290                    295                    300
    Asn Trp Leu Ala Ile Leu Leu Tyr Met Glu Ala Val Val Ser Pro Phe
    305                    310                    315                    320
    Gly Thr Gly Val Ser Phe Val Ala Val Thr Gly Arg Val Leu Arg Ala
                    325                    330                    335
    Met Glu Glu Asn Gly His Ile Pro Lys Phe Leu Gly Lys Ile Asn Lys
                340                    345                    350
    Lys Tyr Asn Ile Pro Arg Val Ala Ile Ala Phe Asn Ala Ile Ile Ser
                355                    360                    365
    Met Val Met Val Thr Leu Phe Arg Asp Trp Gly Thr Leu Ala Ala Val
                370                    375                    380
    Ile Ser Thr Ala Thr Leu Val Ala Tyr Leu Thr Gly Pro Thr Thr Val
    385                    390                    395                    400
    Ile Ser Leu Arg Lys Met Ala Pro Lys Met Thr Arg Pro Phe Lys Ala
                    405                    410                    415
    Asn Ile Leu Lys Phe Met Ala Pro Leu Ser Phe Val Leu Ala Ser Leu
                420                    425                    430
    Ala Ile Tyr Trp Ala Met Trp Pro Thr Thr Ala Glu Val Ile Leu Ile
                435                    440       ,            445
    Ile Ile Leu Gly Leu Pro Ile Tyr Phe Phe Tyr Glu Tyr Lys Met Asn
                450                    455                    460
    Trp Lys Asn Thr Lys Lys Gln Ile Gly Gly Ser Leu Trp Ile Ile Ile
    465                    470                    475                    480
    Tyr Leu Ile Val Leu Ala Phe Leu Ser Phe Ile Gly Ser Lys Glu Phe
                    485                    490                    495
    Lys Gly Leu Asn Trp Ile His Tyr Pro Trp Asp Phe Leu Val Ile Val
                500                    505                    510
    Ile Val Ala Leu Ile Phe Tyr Gln Leu Gly Thr Thr Ser Tyr Phe Glu
                515                    520                    525
    Ser Ile Tyr Phe Lys Arg Ala Asn Lys Leu Asn Lys Lys Met Gly Asp
                530                    535                    540
    Lys Leu Arg Lys Thr Arg Lys Lys Ala Arg His Lys Asp Trp Lys Glu
    545                    550                    555                    560
    Arg Asp Arg Gln Glu Gln Asn Gln
                    565
```

<210> 5006
<211> 513
<212> PRT
<213> S.epidermidis

<400> 5006

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    Glu Ala Asn Met Glu Glu Arg Ile Gly Leu Ile Asp Ile Gly Ser Asn
    1                   5                   10                    15
    Thr Ile Arg Leu Val Ile Phe Gly Tyr Asn Lys Lys Thr Gly Leu Asn
                20                    25                    30
    Glu Ile Leu Asn Ile Lys Thr Pro Ala Arg Leu Ser Gln Tyr Leu Thr
                35                    40                    45
    Lys Ser Asn Glu Met Asn Asp Glu Gly Ile His Val Leu Lys Glu Thr
                50                    55                    60
```

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Leu Ser Ser Phe Arg Lys Val Ala Asp Lys Phe Asn Val Asp Ala Leu
65              70              75                      80
Tyr Pro Ile Ala Thr Ala Ala Ile Arg Gln Ser Lys Asn Arg Glu Ala
            85              90              95
Ile Ile Lys Glu Ile Lys Gln Asp Ile His Ile Glu Ile Gln Ile Val
            100             105             110
Pro Glu Glu Asp Glu Ala Phe Tyr Gly Tyr Tyr Ala Ile Thr His Thr
            115             120             125
Thr Asp Ile Glu Asn Gly Ile Ser Val Asp Ile Gly Gly Gly Ser Thr
    130             135             140
Glu Val Thr Leu Phe Lys Asp Lys Gln Leu Lys Glu Ala His Ser Phe
145             150             155                     160
Pro Phe Gly Val Val Ser Leu Lys Arg Gln Phe Phe Gly Asp Lys Ala
            165             170             175
His Asn Asp Lys Thr Ala Ile Lys Asn Met Glu Gln Phe Leu Arg Glu
            180             185             190
Gln Phe Ser Gln Leu Asp Trp Leu Ser Asn Gln His Ile Ala Leu Val
    195             200             205
Gly Val Gly Gly Ser Ala Arg Asn Val Ala Arg Ile His Gln Ser Ala
    210             215             220
His Ala Tyr Pro Ile Gly Gly Val His Asn Tyr Lys Met Thr Ser Lys
225             230             235                     240
Asp Ile Asn Asn Val Tyr Asp Leu Ile Arg Lys Ser Ser Arg Asp Glu
            245             250             255
Leu Thr Asn Leu Asp Gly Leu Ser Arg Asp Arg Val Asp Ile Ile Leu
            260             265             270
Pro Ala Ile Ser Val Phe Lys Thr Leu Phe Lys Lys Ile Asp Ala Thr
    275             280             285
Gln Phe Thr Phe Ser Arg Lys Gly Ile Arg Glu Gly Phe Ile Met Asn
    290             295             300
His Ile Ser Lys Arg Tyr Pro Asp Glu Phe Asn Lys Ser Asn Val Arg
305             310             315                     320
Lys Asp Ala Leu Arg His Leu Ala Asn Glu Tyr His Ile Glu Glu Thr
            325             330             335
Ser Ala Asn Arg Arg Val Lys Leu Ala Gln Ser Leu Leu Asn Gln Ile
    340             345             350
Ile Ser Glu Arg Ser Leu Asn Ile Ser Ala Met Glu Lys Glu Leu Phe
    355             360             365
Ile Glu Gly Ser Tyr Ile Tyr Tyr Leu Gly Ser Phe Ile Asp Ser Asp
370             375             380
Ser Ser Ser Pro His Thr Tyr Tyr Leu Ile Ala Asn Ser Met Ile Asn
385             390             395                     400
Gly Phe Ser His Lys Asp Arg Val Lys Leu Ala Leu Leu Ala Ser Phe
            405             410             415
Lys Asn Lys Ser Leu Leu Lys Phe Tyr Cys Lys Glu Thr Gln Trp Phe
            420             425             430
Ser Asn Lys Glu Ile Asp Thr Ile Gln Ala Leu Gly Gly Ile Ile Lys
    435             440             445
Phe Ala Asn Thr Leu Asn Ile Ser His Thr Ser Phe Val Glu Glu Val
    450             455             460
Lys Leu Lys Ala Lys Lys Asp Asp Lys Tyr Asp Leu Leu Val Tyr Tyr
465             470             475                     480
Lys Gly Ser Pro Ile Ala Glu Glu Tyr Gln Ala Asn Arg Gln Lys Lys
            485             490             495
His Ile Glu Lys Ile Leu Lys Gly Lys Val Ser Ile Ile Phe Thr Lys
            500             505             510
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Ser

<210> 5007
<211> 57
<212> PRT
<213> S.epidermidis

<400> 5007

Arg	Leu	Arg	Ile	Phe	Lys	Leu	Ile	Glu	Asp	Ile	Asp	Asn	Glu	Pro	Asn
1				5					10					15	
Val	Glu	Pro	Trp	Tyr	Ala	Leu	Val	Lys	Leu	Met	Met	Tyr	Gly	Arg	Pro
		20					25					30			
Val	Tyr	Ala	Arg	Ala	Asn	Phe	Ile	Ile	Pro	Ser	Leu	Ala	Ser	Glu	Pro
	35					40					45				
Leu	Asn	Pro	Lys	Val	Thr	Leu	Phe	Ser							
	50					55									

<210> 5008
<211> 359
<212> PRT
<213> S.epidermidis

<400> 5008

Asn	Arg	Ser	Ile	Tyr	Met	Tyr	Lys	Leu	Val	Lys	Pro	Leu	Leu	Phe	Lys
1				5					10					15	
Leu	Asp	Pro	Glu	Arg	Ala	His	Gly	Leu	Thr	Ile	Asn	Ala	Leu	Lys	Cys
		20					25					30			
Val	Gln	Lys	Cys	Ser	Pro	Ile	Leu	Pro	Ile	Val	Asn	Lys	Leu	Phe	Thr
	35					40					45				
Tyr	Asn	Asn	Pro	Ile	Leu	Thr	Gln	His	Ile	His	Gly	Ile	Ser	Phe	Asp
	50					55					60				
Asn	Pro	Ile	Gly	Leu	Ala	Ala	Gly	Phe	Asp	Lys	Ser	Cys	Glu	Val	Pro
65					70					75					80
Lys	Ala	Leu	Glu	Asn	Ile	Gly	Phe	Gly	Ala	Ile	Glu	Leu	Gly	Gly	Ile
				85					90					95	
Thr	Pro	Lys	Pro	Gln	Pro	Gly	Asn	Pro	Lys	Pro	Arg	Met	Tyr	Arg	Leu
		100					105					110			
Leu	Glu	Asp	Asp	Ala	Leu	Ile	Asn	Arg	Met	Gly	Phe	Asn	Asn	Lys	Gly
	115					120					125				
Met	Asn	Lys	Ala	Leu	Ser	Asn	Leu	Arg	Asn	His	Ser	Cys	Ser	Ile	Pro
	130					135					140				
Val	Gly	Leu	Asn	Val	Gly	Val	Asn	Lys	Thr	Thr	Ser	Tyr	Glu	Asn	Arg
145					150					155					160
Tyr	Gln	Asp	Tyr	Ile	Lys	Val	Ile	Asp	Thr	Phe	Lys	Asn	Asp	Val	Ser
				165					170					175	
Phe	Phe	Thr	Val	Asn	Ile	Ser	Ser	Pro	Asn	Thr	Glu	Asn	Leu	Gln	Asn
			180					185					190		
Phe	His	Asp	Glu	Asp	Glu	Phe	Ser	Met	Leu	Cys	Asp	Ala	Leu	Asn	Ser
		195					200					205			
Phe	Lys	Ala	Lys	Asn	Asn	Ile	Asn	Val	Pro	Ile	Phe	Leu	Lys	Leu	Thr
	210					215					220				
Ser	Asp	Met	Glu	Leu	Asp	Gly	Phe	Lys	Lys	Ile	Leu	Pro	Ser	Ile	Thr
225					230					235					240
Asp	Thr	Phe	Asp	Gly	Val	Met	Leu	Ala	Asn	Thr	Thr	Arg	Gln	Arg	Asp
				245					250					255	

Gly Leu Asn Ser Lys Asn Lys Ile Gln Lys Gly Gly Leu Ser Gly Arg
          260   265   270
Pro Leu Phe Gln Arg Asn Leu Gln Leu Val Lys Tyr Ala Tyr Gln Gln
          275   280   285
Thr Arg Gly Asn Phe Leu Ile Ile Gly Thr Gly Gly Ile Phe Ser Ser
          290   295   300
Glu Asp Ala Ile Lys Met Leu Arg Asn Gly Ala Ser Leu Leu Gln Ile
305   310   315   320
Tyr Ser Ser Leu Val Ile Glu Gly Pro Gly Leu Thr Lys Lys Met Asn
          325   330   335
Lys Glu Ile Ala His Tyr Leu Thr Arg His Gly Tyr Ala Asn Val Ser
          340   345   350
Asp Ile Ile Gly Leu Asp Ala
          355

<210> 5009
<211> 105
<212> PRT
<213> S.epidermidis

<400> 5009
Asn Asn Phe Phe Pro Lys Phe Phe His Phe Asn Glu Leu Leu His Asn
1   5   10   15
Lys Val Thr Gln Ile Thr Val Leu Ala Tyr Leu Tyr Asn Ile Ser Ile
          20   25   30
Lys Ile Thr Arg Ile Leu Leu Gln Phe Arg Tyr Lys Lys Phe Ile Leu
          35   40   45
Met Thr Ile Phe Gln His Phe Ser Glu Ala Ile Asn Ser Ala Thr Asn
          50   55   60
Phe Ile Thr Phe Ile Ile Ile Val Arg Asp Lys Val Leu Ile Lys Tyr
65   70   75   80
Ile Ile Thr Met Leu Thr Ile His Lys Arg Asn Arg Phe Pro Ile Glu
          85   90   95
Lys Cys Asn Thr Leu Phe Ile His Ile
          100   105

<210> 5010
<211> 46
<212> PRT
<213> S.epidermidis

<400> 5010
Ser Leu Leu Met Met Met Gln Thr Asp Asn Phe Ala Leu Phe Thr Lys
1   5   10   15
Glu Val Lys Ile Gly Ile Thr Leu Ser Lys Arg Leu His Phe Ile Arg
          20   25   30
Asp Lys Arg Leu Leu Gln Ile Ser Leu Lys Lys Asp Gly Phe
          35   40   45

<210> 5011
<211> 394
<212> PRT
<213> S.epidermidis

<400> 5011
Ile Ile Leu Met Arg Arg His Ser Met Glu Met Ser Glu Arg Leu Ala

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1                     5                     10                    15
Ser Ile Pro Asp Ser Tyr Phe Gly Lys Thr Met Gly Arg Ile Val Glu
                20                    25                    30
His Gly Pro Leu Pro Leu Ile Asn Met Ala Val Gly Ile Pro Asp Gly
            35                    40                    45
Glu Thr Pro Lys Gly Ile Ile Asn His Phe Ser Glu Ala Leu Cys Ile
        50                    55                    60
Pro Glu Asn Gln Lys Tyr Gly Pro Phe His Gly Lys Asp Ala Phe Lys
65                    70                    75                    80
Gln Ala Ile Val Asn Phe Tyr Gln Arg His Tyr Asp Val Glu Leu Asp
                85                    90                    95
Lys Glu Asp Glu Val Cys Ile Leu Tyr Gly Thr Lys Asn Gly Leu Val
            100                   105                   110
Ala Leu Pro Thr Cys Val Val Asn Pro Gly Glu Ile Val Leu Leu Pro
        115                   120                   125
Asp Pro Gly Tyr Thr Asp Tyr Leu Ala Gly Val Met Leu Ala Asp Ala
        130                   135                   140
Lys Pro Leu Pro Leu Lys Leu Ser Pro Pro Asn Tyr Leu Pro Asn Trp
145                   150                   155                   160
Asn Thr Ile Ser Ala Lys Val Leu Glu Lys Thr Lys Leu Ile Tyr Leu
                165                   170                   175
Thr Tyr Pro Asn Asn Pro Thr Gly Ser Thr Ala Thr Gln Asp Asp Phe
            180                   185                   190
Asp Glu Ala Ile His Arg Phe Lys Gly Thr Gln Thr Lys Ile Val His
            195                   200                   205
Asp Phe Ala Tyr Ser Ala Phe Gly Phe Asp Ala Lys Asn Pro Ser Ile
        210                   215                   220
Leu Ala Ser Lys Asn Ala Lys Asp Val Ala Ile Glu Ile Phe Ser Leu
225                   230                   235                   240
Ser Lys Gly Tyr Asn Met Ser Gly Phe Arg Val Gly Phe Ala Val Gly
                245                   250                   255
Asn Lys Lys Met Ile Gln Ala Leu Lys Lys Tyr Gln Thr His Thr Asn
            260                   265                   270
Ala Gly Met Phe Gly Ala Leu Gln Asp Ala Ala Thr Tyr Ala Leu Asn
            275                   280                   285
His Tyr Asp Lys Phe Leu Glu Lys Gln Asn Glu Ile Phe Arg Arg Arg
            290                   295                   300
Arg Asp Asn Phe Glu Ser Gln Leu Lys His Ala His Leu Pro Phe Val
305                   310                   315                   320
His Ser Lys Gly Gly Ile Tyr Ile Trp Leu His Thr Pro Pro Gly Tyr
            325                   330                   335
Asp Ser Glu Ala Phe Glu Gln Leu Leu Leu Lys Glu Lys Ser Ile Leu
            340                   345                   350
Val Ala Pro Gly Lys Pro Phe Gly Glu Asn Gly Asn Gln Tyr Val Arg
            355                   360                   365
Val Ser Leu Ala Leu Asp Asp Lys Gln Leu Glu Glu Ala Ala Asn Arg
        370                   375                   380
Leu Thr Gln Leu Arg Tyr Leu Tyr Glu Arg
385                   390
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<210> 5012
<211> 48
<212> PRT
<213> S.epidermidis

<400> 5012
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Cys Cys Leu Met Leu Phe Leu Phe Leu Ile Ser Leu Val Ser Ile Ser
1   5   10   15
Phe Val Ile Ala Val Tyr Gln Met Leu Glu Phe Leu Lys Asn Gly Thr
            20   25   30
Gln Tyr Tyr Ala Val Trp Thr Thr Asp Thr Phe Phe Asp Met Val His
        35   40   45

<210> 5013
<211> 47
<212> PRT
<213> S.epidermidis

<400> 5013
Asp Val Leu Ile Leu Asn Lys Asn Leu Gly Ser Glu Thr Met Asp Glu
1   5   10   15
Ala Leu Phe Ile Gly Leu Thr Leu Phe Phe Asn Ile Met Asn Glu Met
            20   25   30
Phe Met Asn Glu Asn Asp Val Phe Leu Leu Leu Tyr Ser Leu Lys
        35   40   45

<210> 5014
<211> 44
<212> PRT
<213> S.epidermidis

<400> 5014
Ile Thr Leu Met Ser Tyr Ser Leu Thr Lys Arg Tyr Asp Lys Val Val
1   5   10   15
Gln Asn Asn Ser Met Ile Arg Ser Asn Asp Val Trp Gln Lys Leu Lys
            20   25   30
Arg Lys Leu Gln Ser Leu Gln Val Arg Val Ala Val
        35   40

<210> 5015
<211> 44
<212> PRT
<213> S.epidermidis

<400> 5015
Leu Glu Leu Ile Lys Lys Val Pro Tyr Ser Ser Tyr Gly Leu Cys Met
1   5   10   15
Cys Leu Asn Lys Gly Phe Tyr Leu Thr Ile Val Ser His Tyr Glu Asn
            20   25   30
Lys Phe Phe Asn Ile Leu Tyr Lys Glu Pro Asn Asn
        35   40

<210> 5016
<211> 59
<212> PRT
<213> S.epidermidis

<400> 5016
Val Lys Leu Ile Leu Glu Asn Leu Thr Phe Leu Glu Leu Thr Phe Leu
1   5   10   15
Ser Ile Lys Tyr Asn Asn Leu Pro Ser Cys Lys Asn Asn Leu Ser Tyr
            20   25   30

Leu Arg Cys Phe Asn Leu Leu Glu Asn Gly Gln Tyr Leu Leu Gln Gln
          35   40   45
Val Tyr Ala Gln Lys Asn Ser Tyr Ser Gln Ile
          50   55

<210> 5017
<211> 40
<212> PRT
<213> S.epidermidis

<400> 5017
Met Cys Leu Ile Asn Asp His Ile Val Ser Lys Ile Leu Gln Asn Gly
1   5   10   15
Ile Gly Ser Ile Ile Asn Met Tyr Phe Cys Tyr Ile Ala Tyr Arg Leu
          20   25   30
Ile Ile Gly Ile Ser Ala Ile Ile
          35   40

<210> 5018
<211> 148
<212> PRT
<213> S.epidermidis

<400> 5018
Ile Thr Leu Ile Thr Ile Ile Ile Ala Tyr His Ser Trp Val Ile Ile
1   5   10   15
Asn Leu Leu Ile Ile Tyr Ile Arg Leu Lys Gln Arg Cys Tyr Ile Ile
          20   25   30
Tyr Glu Arg Tyr Tyr Asp Phe Arg Arg Arg Gly Met Glu Lys Ser Val
          35   40   45
Lys Leu Ala Val Gly Ile Tyr Leu Ala Ile Ile Leu Ile Ile Cys Ser
          50   55   60
Ile Tyr Leu Ala Phe Ile Leu Ile Gly Ser Leu Asn Gly Lys Asp Met
65   70   75   80
Ser Asn Ser Val Leu Asp Thr Asp His Ser Arg Ile Asn Asn Thr Ser
                  85   90   95
Arg Asn Ser Asn Glu Asp Val Thr Ser Ser Asn Asn Glu Ser Asn Asn
              100   105   110
Thr Lys Ala His Ser Phe Ala Asn Ser Glu Tyr Lys Ala Ile Asn Ile
          115   120   125
Asn Glu Ala Phe Lys Asn Asn Lys Gln Ile Lys Lys Ala Asn Ser Ser
          130   135   140
Tyr Gln Tyr Tyr
145

<210> 5019
<211> 247
<212> PRT
<213> S.epidermidis

<400> 5019
Phe Ala Ile Met Gly Leu Lys Arg Asn Arg Arg Leu Arg Lys Met Tyr
1   5   10   15
Val Glu Arg Lys Pro Ala Leu Tyr Ile Glu Asp Leu Arg Asp Glu Phe
          20   25   30
Lys Asn Ser Leu Lys His Phe Lys Asp Asp Asp Glu Ala Phe Asn Thr

```
                35                        40                        45
Leu Val Gly Phe Val Glu Leu Asp His Leu Tyr Ser Ser Ala Leu Lys
          50                        55                        60
Glu Ile Ser Thr Lys Leu Ser Ile Leu Asp Asp Asn Phe Asn Tyr Gln
65                        70                        75                        80
Tyr Lys His Asn Pro Ile His His Met Glu Arg Arg Val Lys Glu Met
                    85                        90                        95
His Ser Leu Val Lys Lys Leu Asn Arg Lys Gly Phe Glu Val Ser Ala
              100                       105                       110
Gln Ser Ala Lys Asp Asn Ile Met Asp Ile Ala Gly Ile Arg Val Val
              115                       120                       125
Cys Asn Tyr Leu Asp Asp Val Tyr Val Ile Glu Lys Met Leu Leu Arg
          130                       135                       140
Gln Glu Asp Val Lys Leu Leu Lys Arg Lys Asp Tyr Ile Thr His Pro
145                       150                       155                       160
Lys Glu Asn Gly Tyr Arg Ser Leu His Ile Val Val Ser Ile Pro Val
                  165                       170                       175
Phe Leu Ala Asp Ser Val Glu Val Thr Pro Val Glu Ile Gln Ile Arg
                  180                       185                       190
Thr Ile Gly Met Asp Met Trp Ala Ser Leu Glu His Lys Ile Arg Tyr
              195                       200                       205
Lys Asn Asp Thr Asp Thr Glu Lys Tyr Lys Gly Leu Leu Glu Gln Cys
          210                       215                       220
Ala Ser Glu Ile Thr Asn Val Glu Ser Lys Met Gln Gln Ile His Ser
225                       230                       235                       240
Glu Ile Ser Asn Arg Glu Lys
                  245
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<210> 5020
<211> 138
<212> PRT
<213> S.epidermidis

<400> 5020
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Met Ala Ile Ile Asn Leu Ser His Arg Gly Asp Thr Ser Phe Asp Lys
1                   5                        10                        15
Leu Leu Gly His Leu Pro Ser Val Gln Glu Lys Trp Asn Ala Leu Glu
          20                        25                        30
Asp Ile Leu Lys Asn Glu Gly Gln Leu Ser Val Asp Leu Lys Glu Glu
          35                        40                        45
Ile Arg Lys Ile Leu Ala Gln Asn Ser Gly Cys Leu Tyr Cys Lys Ser
          50                        55                        60
Lys Gly Lys Pro Asn Lys Lys Phe Thr Asp Glu Lys Ser Leu Val Cys
65                        70                        75                        80
Ile Gly Phe Val Asp Val Tyr Val Ser Gln Asn Gly Arg Val Pro Gln
                    85                        90                        95
Ser Thr Ile Gln Val Leu Thr Lys Thr Leu Thr Asp Ile Glu Ile Val
              100                       105                       110
Glu Leu Leu Ala Phe Ile Ser Phe Thr His Cys Gln Gln Glu Phe Gly
              115                       120                       125
Ala Met Met Asn Leu Gln Pro Ser Asn Asn
          130                       135
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<211> 418
<212> PRT

<213> S.epidermidis

<400> 5021

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Arg Asn Ile Met Lys Phe Val Asn Leu Thr Ser Glu Glu Phe Glu Gln
1               5                   10                  15
Phe Thr Ser Glu Asn Phe Ser His Tyr Thr Gln Ser Ser Ile His Tyr
            20                  25                  30
Asn Asn Arg Ser Lys Thr Lys Gly Asp Val His Leu Val Gly Val Lys
        35                  40                  45
Asp Gly Gln Glu Asp Val Ile Ala Ala Cys Leu Leu Thr Glu Ala Arg
    50                  55                  60
Ser Leu Lys Phe Phe Lys Tyr Phe Tyr Thr His Arg Gly Pro Val Met
65                  70                  75                  80
Asp Phe Asn Asn Leu Val Leu Val Arg Phe Phe Phe Lys Ser Leu Thr
                85                  90                  95
Ala Tyr Leu Lys Lys His Asn Cys Leu Tyr Val Leu Val Asp Pro Tyr
            100                 105                 110
Val Leu Glu Asn Leu Arg Gln Pro Asn Gly Glu Ile Ile Glu Ser Phe
        115                 120                 125
Asp Asn Arg Ala Leu Ile Lys Thr Met Glu Glu Leu Gly Tyr Lys His
        130                 135                 140
Gln Gly Tyr Thr Val Gly Tyr Asp Thr Met Ser Gln Ile Arg Trp Leu
145                 150                 155                 160
Ser Val Leu Asn Leu Lys Asp Lys Ser Glu Asp Gln Leu Leu Lys Glu
                165                 170                 175
Met Asp Tyr Gln Thr Arg Arg Asn Ile Lys Lys Thr Tyr Glu Met Gly
            180                 185                 190
Val Lys Val Lys Thr Leu Pro Ile Glu Glu Thr Asn Thr Phe Phe Glu
            195                 200                 205
Leu Phe Lys Met Ala Glu Glu Lys His Gly Phe Lys Phe Arg Glu Glu
            210                 215                 220
Pro Tyr Phe Val Glu Met Gln Lys Thr Tyr Glu Asp His Ala Met Leu
225                 230                 235                 240
Lys Leu Ala Tyr Ile Asp Leu Gln Asp Tyr Leu Asp Thr Leu Gln Thr
                245                 250                 255
Lys His Gln Asn Leu Asn Gln Gln Leu Lys Asp Val Glu Lys Thr Leu
                260                 265                 270
Glu Glu Asn Pro Asn Ser Lys Lys Asn Lys Thr Lys His Thr Gln Val
            275                 280                 285
Lys Gln Gln Phe Asp Ser Asn Ala Arg Lys Ile Arg Gln Thr Lys Glu
    290                 295                 300
Lys Ile Ala Glu Glu Gly Gln Val Leu His Leu Ala Ala Ala Leu Tyr
305                 310                 315                 320
Ile Tyr Asn Asp His Glu Val Tyr Tyr Leu Ser Ser Gly Ser Asn Pro
            325                 330                 335
Lys Tyr Asn Ala Tyr Met Gly Ala Tyr Arg Leu Gln Trp Asp Met Ile
            340                 345                 350
Gln Phe Ala Lys Glu His Asn Ile Asp Arg Tyr Asn Phe Tyr Gly Val
    355                 360                 365
Thr Gly Asp Phe Ser Glu Asn Ala Glu Asp Ala Gly Val Gln Lys Phe
    370                 375                 380
Lys Glu Gly Phe Asn Ala Lys Ile Tyr Glu Tyr Ile Gly Asp Phe Ile
385                 390                 395                 400
Lys Pro Ile Lys Pro Leu Phe Tyr Lys Val Lys Gln Glu Leu Glu Ser
                405                 410                 415
Arg Arg
```